HUMAN FACTORS

Task H Study Guide · ACS Area of Operation I, Task H

FAA-S-ACS-6C · PA.I.H · SOURCES: 14 CFR PART 61 / PART 91 · AIM CH 8 · PHAK CH 2 / CH 17 · REV 2026-07

How to use this guide: the body text is your study material. The boxed **source windows** are the actual FAA text behind each rule, quoted word for word, so you can see exactly what the examiner's reference says. Learn the concept, then read the source. Finish with the written test questions and oral scenarios at the back.

01 AEROMEDICAL AND PHYSIOLOGICAL ISSUES *PA.I.H.K1*

Symptoms, recognition, causes, effects, and corrective actions.

HYPOXIA PA.I.H.K1A

Hypoxia is a blanket term for a deficiency of oxygen to the body. There are four types of hypoxia that can occur. All types present similar symptoms and recognizable traits, but each type has its own corrective action for recovery.

General Cause

A state of oxygen deficiency in the body sufficient to impair the functions of the brain and other organs.

Symptoms / Recognition / Effect

Blue coloration of the lips and fingernails (cyanosis), tunnel vision, euphoria, then impaired judgment.

SOURCE WINDOW **AIM 8-1-2**

"Hypoxia is a state of oxygen deficiency in the body sufficient to impair functions of the brain and other organs."

"Although a deterioration in night vision occurs at a cabin pressure altitude as low as 5,000 feet, other significant effects of altitude hypoxia usually do not occur in the normal healthy pilot below 12,000 feet."

AIM 8-1-2, Effects of Altitude, current online edition, accessed 2026-07-31

TYPE	CAUSE	CORRECTIVE ACTION
Hypoxic	Not enough oxygen getting into your lungs due to the decreased air density at high altitudes.	Descend to a lower altitude if supplemental oxygen is not available.
Hypemic	Blood lacks the capability to carry oxygen: fewer blood cells (blood donation, anemia), or something else binding to the blood cells more easily than oxygen, such as carbon monoxide.	Use supplemental oxygen, descend to a lower altitude. If CO poisoning is suspected, open windows and vents for fresh air and turn off cabin heat.
Histotoxic	The cells themselves cannot use the oxygen effectively. Caused by alcohol or certain drugs like narcotics or poisons.	Use supplemental oxygen.
Stagnant	Insufficient blood flow: a leg “going to sleep,” excess G force, a constricted artery, the heart failing to pump effectively, shock, or hypothermia.	Depending on the cause: relax G-pressure, move and warm your extremities, and get on the ground as quickly as possible.

HYPERVENTILATION PA.I.H.K1B

Cause

Hyperventilation is an abnormal increase in the volume of air breathed in and out of the lungs, causing you to lose too much of the carbon dioxide the blood needs. It is often encountered in a stressful situation.

Symptoms / Recognition / Effect

Tingling in the extremities, lightheadedness, a feeling of suffocation, drowsiness, which can lead to disorientation and painful muscle spasms.

Corrective Action

Controlled breathing exercises, singing or talking aloud, breathing into a paper bag.

SOURCE WINDOW **AIM 8-1-3**

“Hyperventilation, or an abnormal increase in the volume of air breathed in and out of the lungs, can occur subconsciously when a stressful situation is encountered in flight.”

“The symptoms of hyperventilation subside within a few minutes after the rate and depth of breathing are consciously brought back under control. The buildup of carbon dioxide in the body can be hastened by controlled breathing in and out of a paper bag held over the nose and mouth.”

AIM 8-1-3, Hyperventilation in Flight, current online edition, accessed 2026-07-31

> **TAKEAWAY:** Hypoxia and hyperventilation share symptoms. If oxygen is available and symptoms do not improve, slow the breathing rate: you are treating hyperventilation, not hypoxia.

MIDDLE EAR AND SINUS PROBLEMS PA.I.H.K1C

Cause

The differential between pressure in the ears or sinuses and the outside atmospheric pressure. This most often occurs when you are experiencing a common cold, an upper respiratory infection, or a sinus infection.

Symptoms / Recognition / Effect

Slight to severe pain in the ears or sinuses, hearing loss, and in extreme cases rupture of the eardrum.

Corrective Action

The best prevention is to not fly with any cold symptoms when your ears already feel blocked, or with allergies acting up. If mild discomfort is experienced, try yawning, swallowing, or the valsalva maneuver: pinch your nose, close your mouth, and attempt to exhale gently.

SPATIAL DISORIENTATION PA.I.H.K1D

Cause

Various complex motions and forces in flight can lead to illusions of motion and position. Your body will tend to misinterpret certain movements and lead you to believe you are moving in a different way than you actually are.

Symptoms / Recognition / Effect

Unable to differentiate between up and down, turning or banking, climbing or descending.

Corrective Action

This can only be prevented by visual reference to reliable, fixed points on the ground or to the flight instruments. When in doubt, trust the instruments.

Types of Spatial Disorientation: ICEFLAGS

- **I**nversion: an abrupt change from climb to cruise creates the illusion of tumbling backwards.
- **C**oriolis: rapid head movement causes the illusion of accelerating or turning, especially in a prolonged constant-rate turn.
- **E**levator: an updraft causes the pilot to think they are in a climb, causing them to pitch down, which may induce a dive. Vice versa with downdrafts.
- **F**alse Horizon: sloping cloud formations or obscured horizons confuse the pilot into misaligning with the true horizon.
- **L**eans: an abrupt recovery from a roll can make the pilot think the aircraft is turning in the opposite direction.

- **A**utokinesis: stationary lights may appear to move at night. The pilot may lose control trying to align with the lights.
- **G**raveyard Spiral: in a prolonged descending constant-rate turn, the sensation of turning is lost and the pilot may misinterpret the condition as a wings-level loss of altitude. Pulling up only tightens the spiral and increases the loss of altitude.
- **S**omatogravic: rapid acceleration (especially during takeoff) creates the illusion of a nose-up attitude, causing the pilot to push into a dive; rapid deceleration causes the reverse.

MOTION SICKNESS PA.I.H.K1E

Cause

The brain receives conflicting signals about the state of the body. Anxiety and stress can also contribute to motion sickness.

Symptoms / Recognition / Effect

General discomfort, nausea, dizziness, paleness, sweating, and vomiting.

Corrective Action

Open fresh air vents in the cabin, focus on objects outside the plane, and avoid unnecessary head movements.

CARBON MONOXIDE POISONING PA.I.H.K1F

Cause

When carbon monoxide from engine exhaust is inhaled, it enters the bloodstream and prevents the hemoglobin from carrying oxygen to the cells, resulting in hypemic hypoxia.

Symptoms / Recognition / Effect

Headache, blurred vision, dizziness, drowsiness, and/or loss of muscle power.

Corrective Action

If you smell engine exhaust and suspect carbon monoxide poisoning: open air vents or windows to bring fresh air into the cabin, close heater vents or turn the heater off, and begin using supplemental oxygen if available. Land as soon as possible, and do not hesitate to let ATC know. Once on the ground, seek medical attention. Before flying the same aircraft again, have it inspected by a certificated mechanic.

SOURCE WINDOW **AIM 8-1-4**

“Carbon monoxide is a colorless, odorless, and tasteless gas contained in exhaust fumes.” When inhaled, “it can significantly reduce the ability of the blood to carry oxygen.”

AIM 8-1-4, Carbon Monoxide Poisoning in Flight, current online edition, accessed 2026-07-31

> **TIP:** Invest in a carbon monoxide detector that works. Portable units can be purchased and brought with you whenever you fly. And whenever you use the heater in an aircraft, use an outside fresh air source as well, so the cabin is not receiving air only from the heater.

STRESS PA.I.H.K1G

Cause

Stress is the body's response to the physical and psychological demands placed upon it. Chronic stress is a level of stress that presents an intolerable burden, exceeds the ability of the individual to cope, and causes performance to fall sharply.

Symptoms / Recognition / Effect

High blood sugar, high blood pressure, increased heart rate, unusual reactions to situations.

Corrective Action

First recognize when you are stressed beyond your capability. ***Try to address these stresses in your life and develop a coping method before you fly an aircraft.*** If you suspect you have chronic stress, it is recommended that you consult a physician.

FATIGUE PA.I.H.K1H

Cause

Acute fatigue is short term and is a normal occurrence in everyday living: the tiredness felt after a period of strenuous effort, excitement, or lack of sleep. Continuous high stress produces chronic fatigue.

Symptoms / Recognition / Effect

Reduced coordination and alertness, impaired judgment, a constant tired feeling, lack of motivation.

Corrective Action

Adequate rest and sleep, regular exercise, and proper nutrition.

DON'T...	DO...
• Consume alcohol or caffeine 3 to 4 hours before going to bed • Eat a heavy meal just before bedtime • Take work to bed • Exercise 2 to 3 hours before bedtime • Use sleeping pills (prescription or otherwise)	• Be mindful of the side effects of certain medications • Consult a physician to diagnose and treat any medical conditions causing sleep problems • Create a comfortable sleep environment at home • When traveling, select hotels that provide a comfortable environment • Get into the habit of sleeping eight hours per night • Nap during the day, but limit the nap to less than 30 minutes • Try to turn in at the same time each day • If you can't fall asleep within 30 minutes of going to bed, read any FAA publication • If problems preclude a good night's sleep, rethink the flight and postpone it accordingly

DEHYDRATION AND NUTRITION PA.I.H.K1I

Cause

Dehydration is the lack of body fluids needed to carry on normal functions at an optimal level. Loss of only a small percentage of body fluids can adversely affect both mental and physical processes. Nutrition matters to pilots because of the physical and mental demands of flying: you are what you eat.

Symptoms / Recognition / Effect

Symptoms of dehydration and poor nutrition are similar and include headache, fatigue, cramps, sleepiness, and dizziness.

Corrective Action

On extended flights, carry a good amount of water or other suitable liquids with you. Eat the correct foods, on a regular schedule, with proper portions for the time of day.

HYPOTHERMIA PA.I.H.K1J

Cause

Hypothermia occurs when your body is unable to maintain its normal temperature. A core body temperature below `95 F (35 C)` signals hypothermia.

Symptoms / Recognition / Effect

Extreme shivering, stiffness of the arms and legs, confusion or sleepiness, slurred speech, poor control over body movements.

Corrective Action

Dress appropriately for the environment, and advise your passengers that the temperature at altitude is much colder than on the ground.

OPTICAL ILLUSIONS PA.I.H.K1K

Various types of optical illusion can occur in flight. They present differently, but they all share the same defense: expect them and be prepared.

Cause

Terrain, atmospheric, or natural physiological conditions cause the pilot to perceive something different from what is actually there.

Corrective Action

Know that illusions may be present and adjust as appropriate. Know the environment you will be flying into; preparation is the best defense.

Types of Optical Illusions

ILLUSION	WHAT HAPPENS
Runway Width	A narrower than usual runway makes you think you are high on the approach, resulting in a low approach and landing short. A wider than usual runway makes you think you are low, resulting in a high approach and landing long.
Runway Slope	An upsloping runway makes you think you are high on the approach, resulting in a low approach and landing short. A downsloping runway makes you think you are low, resulting in a high approach and landing long.
Featureless Terrain	In the absence of ground features (over water, darkened terrain, or snow), you believe you are higher than you actually are, and fly a lower approach and land short.
The Blossom Effect	Two aircraft on a collision course appear virtually motionless to each other for a long time, then suddenly bloom into a huge mass filling the window. Only a small central area of the eye sends sharply focused images to the brain.
Ground Lighting	Lights along a road can be mistaken for a runway. Bright runway lights surrounded by darkness make you believe you are closer than you are, producing a high approach. Sparse terrain lighting produces a low approach.

SOURCE WINDOW AIM 8-1-6

"Effective scanning is accomplished with a series of short, regularly spaced eye movements that bring successive areas of the sky into the central visual field."

"Each movement should not exceed 10 degrees, and each area should be observed for at least 1 second to enable detection."

AIM 8-1-6, Vision in Flight, current online edition, accessed 2026-07-31

NITROGEN AFTER SCUBA DIVING PA.I.H.K1L

Cause

Flight after scuba diving may cause decompression sickness. Nitrogen dissolved in the body's tissues under the higher pressure of the dive comes out of solution as pressure drops with altitude, forming bubbles in the bloodstream and tissues (evolved gas). This can occur at surprisingly low altitudes and create a serious in-flight problem.

Symptoms / Recognition / Effect

Extreme pain in the joints or skin, fatigue, lower back pain, paralysis or numbness of the legs, and weakness or numbness in the arms.

Corrective Action

The safest prevention for decompression sickness (the bends) is to wait `24 hours` before flying after any scuba dive. The FAA's recommended minimums: after non-decompression diving, wait `12 hours` before flying up to `8,000 ft`; after decompression-stop diving, wait `24 hours`. For any flight above `8,000 ft`, wait `24 hours` after any dive.

SOURCE WINDOW AIM 8-1-2

The recommended waiting time before going to flight altitudes of up to 8,000 feet is "at least 12 hours after diving that did not require a controlled ascent (i.e., non-decompression stop diving)" and "at least 24 hours after diving that required a controlled ascent (i.e., decompression stop diving)." The waiting time before going to flight altitudes above 8,000 feet should be "at least 24 hours after any SCUBA dive." These altitudes are "actual flight altitudes above mean sea level (AMSL) and not pressurized cabin altitudes."

AIM 8-1-2, Effects of Altitude (Decompression Sickness After Scuba Diving), current online edition, accessed 2026-07-31

02 ALCOHOL AND DRUG REGULATIONS *PA.I.H.K2 / K3*

Drinking causes impaired judgment, lack of alertness, and disorientation. FAR 91.17 sets four separate prohibitions: no acting as a crewmember within `8 hours` of consuming alcohol, while under the influence of alcohol, while using any drug that affects your faculties contrary to safety, or with an alcohol concentration of `0.04` or greater.

SOURCE WINDOW — 14 CFR 91.17(a), (b)

"(a) No person may act or attempt to act as a crewmember of a civil aircraft (1) Within 8 hours after the consumption of any alcoholic beverage; (2) While under the influence of alcohol; (3) While using any drug that affects the person's faculties in any way contrary to safety; or (4) While having an alcohol concentration of 0.04 or greater in a blood or breath specimen. Alcohol concentration means grams of alcohol per deciliter of blood or grams of alcohol per 210 liters of breath."

"(b) Except in an emergency, no pilot of a civil aircraft may allow a person who appears to be intoxicated or who demonstrates by manner or physical indications that the individual is under the influence of drugs (except a medical patient under proper care) to be carried in that aircraft."

14 CFR 91.17 Alcohol or drugs, eCFR current as of 2026-07-31

SOURCE WINDOW — AIM 8-1-1 · 14 CFR 61.15(e)

On hangover: "Even after the body completely destroys a moderate amount of alcohol, a pilot can still be severely impaired for many hours by hangover."

On DUI reporting: "Each person holding a certificate issued under this part shall provide a written report of each motor vehicle action to the FAA, Civil Aviation Security Division (AMC-700) ... not later than 60 days after the motor vehicle action."

AIM 8-1-1, Fitness for Flight; 14 CFR 61.15 Offenses involving alcohol or drugs, eCFR current as of 2026-07-31

TAKEAWAY: Legal after 8 hours is not the same as safe. A hangover means you are still impaired, and 91.17(a)(2) "under the influence" still applies.

03 AERONAUTICAL DECISION-MAKING *PA.I.H.K4*

ADM, including Crew Resource Management (CRM) or Single-Pilot Resource Management (SRM), as appropriate.

You need to be familiar with aeronautical decision-making (ADM), which includes a few checklists and models to commit to memory.

SOURCE WINDOW — PHAK CH 2

"Aeronautical decision-making (ADM) is decision-making in a unique environment - aviation. It is a systematic approach to the mental process used by pilots to consistently determine the best course of action in response to a given set of circumstances."

Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25C), Chapter 2, Aeronautical Decision-Making

CHECKLIST / MODEL	ELEMENTS
PAVE preflight risk assessment	**P**ilot · **A**irplane · En**V**ironment · **E**xternal Pressures
DECIDE responding to change	**D**etect the fact that a change has occurred · **E**stimate the need to counter or react · **C**hoose a desirable outcome · **I**dentify actions to control the change · **D**o the necessary action · **E**valuate the effects
The 5 P's use at least 5 times per flight: preflight, after start, before takeoff, mid flight, approach	The **Plan** · The **Plane** · The **Pilot** · The **Passengers** · The **Programming**
CARE evaluating decisions	**C**onsequences · **A**lternatives · **R**eality · **E**xternal Pressures

04 RISK MANAGEMENT *PA.I.H.R1 THROUGH R4*

AEROMEDICAL AND PHYSIOLOGICAL ISSUES PA.I.H.R1

Operating any vehicle, and especially an aircraft, when we are not at our best greatly increases the risk of harm to ourselves and to the people and property around us. As pilot in command, you are responsible for ensuring your fitness to fly before each and every flight. Using the PAVE checklist and our personal minimums helps us verify our own fitness for flight. Knowing our limitations as pilots, and being aware of the in-flight hazards to our well-being, helps us plan each flight in a safer and more well-rounded way.

HAZARDOUS ATTITUDES PA.I.H.R2

Be aware of the 5 hazardous attitudes a pilot can have when flying, as well as their antidotes. Remember them with the acronym **RAIIM**:

ATTITUDE	THE THOUGHT	THE ANTIDOTE
Resignation	“What's the use? I can't fix this.”	“I'm not helpless. I can make a difference.” I can do something; I can get help.
Anti-Authority	“Don't tell me what to do.”	“Follow the rules. They are usually right.” The rules are there for a reason.
Impulsivity	“Do something quickly, now!”	“Not so fast. Think first.” Follow your checklist; use the DECIDE model.
Invulnerability	“It won't happen to me.”	“It could happen to me.” Complete a thorough preflight and avoid unnecessary risks (PAVE).
Macho	“Watch this!”	“Taking chances is foolish.” Follow your personal minimums and evaluate the external pressures on your decision-making.

SOURCE WINDOW **PHAK CH 2**

The five antidotes, exactly as the FAA words them: Anti-authority: “Follow the rules. They are usually right.” Impulsivity: “Not so fast. Think first.” Invulnerability: “It could happen to me.” Macho: “Taking chances is foolish.” Resignation: “I'm not helpless. I can make a difference.”

Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25C), Chapter 2, hazardous attitude antidote table. Memorize these word for word; the knowledge test uses this phrasing.

DISTRACTIONS, TASK PRIORITIZATION, LOSS OF SITUATIONAL AWARENESS, OR DISORIENTATION

PA.I.H.R3

The number one common factor in most preventable accidents is human error. The likelihood of a Loss of Control (LOC) accident goes up drastically when a pilot gets distracted in the cockpit. Whether it is your iPad overheating, a passenger getting sick, or trying to scud-run under a low layer of clouds and inadvertently entering Instrument Meteorological Conditions (IMC), the moment multitasking enters the cockpit, the overall situational awareness and performance of the pilot goes down.

Knowing this, we can practice for overwhelming situations and prepare ourselves mentally for the moments when distractions or disorientation occur.

The most important rule to remember is **AVIATE, then NAVIGATE, then COMMUNICATE**. When uncertainty and distractions creep in, our first priority must be maintaining control of the aircraft. Once we are actively maintaining control, we can progress a step further, ensuring we are headed in a safe direction, and then making radio calls as necessary.

Always refer back to your aircraft-specific checklists during each phase of flight, regardless of how familiar you are with the airplane. Additional tools like the DECIDE, CARE, or 5 P's checklists help us

assess ourselves and our situation throughout a flight.

Standard operating procedures, such as maintaining a sterile cockpit, remaining heads-up and looking outside during critical phases of flight, referencing checklists after completing tasks, and limiting internal distractions, greatly increase our ability to focus on the important tasks at hand.

CONFIRMATION AND EXPECTATION BIAS PA.I.H.R4

Expectation bias occurs when a pilot hears or sees something that he or she expects to hear or see, rather than what is actually occurring.

Expectation is often driven by experience or repetition. For example, if a pilot is regularly cleared to cross a particular runway at a familiar aerodrome, they may come to expect the clearance. That becomes dangerous on the day the pilot is actually instructed to hold short because of another aircraft landing or taking off.

One way to overcome expectation bias is training that stresses active questioning of observations and recognizing the presence of conflicting cues.

Confirmation bias describes our tendency to seek out and trust information that confirms what we already think, believe, or want to believe, and to avoid or discount information that goes against it.

When a pilot has a strong motivation to depart or continue a flight, confirmation bias may limit what information the pilot considers relevant, omitting anything that does not fit the pilot's preconceived picture of the situation. A pilot who desperately needs to make a trip may decide that “it doesn't look that bad” or “it seems like it's improving” or “it looks better just east of here,” and then never access the information sources that might negate that opinion.

Confirmation bias can be so strong that once a mental model is formed and confirmed, it becomes very difficult to let go of, even in the light of contradictory information. Even a pilot who seems to be carefully and dispassionately gathering all available information may be heavily influenced by it.

Example: On a difficult weather day, the amount of information available is often more than a pilot can easily process. Our brains naturally look for something in all that information to help make sense of what is going on, and research shows we are more likely to notice information we agree with or consider positive.

Example: A pilot preparing to take off in an overloaded airplane on a hot day at a high-elevation airport might notice that the wind is right down the runway, and use that fact as justification to take off without computing weight and balance and takeoff distance.

The first line of defense is simply being aware that confirmation bias exists. Track situations where you or others make decisions that appear influenced by it. Be especially alert whenever you are strongly motivated to reach a certain goal or have a lot riding on a particular outcome. Listen to the words you and others use in questions and answers to see if they are biased toward a desired answer. Use aggressive skepticism: force yourself to consider the negative side of what might happen if things do not work out as you hoped.

05 WRITTEN TEST STUDY QUESTIONS

Use these questions to familiarize yourself with the subject material. If you can answer them successfully and understand the concept behind each one, proceed to the oral exam scenario questions.

HYPOXIA PA.I.H.K1A

1. Which statement best defines hypoxia?

A. A condition of gas bubble formation around the joints or muscles.
B. An abnormal increase in the volume of air breathed.
C. A state of oxygen deficiency in the body.

2. Which is not a type of hypoxia?

A. Hypertoxic.
B. Hypoxic.
C. Histotoxic.

3. Which of the following is a correct response to counteract the feelings of hypoxia in flight?

A. Increase cabin air flow.
B. Promptly descend to a lower altitude.
C. Avoid sudden inhalations.

4. A pilot making a blood donation in order to help a sick associate should be aware that for several weeks

A. sufficient oxygen may not reach the cells in the body.
B. the ability of the body tissues to effectively use oxygen is decreased.
C. fewer oxygen molecules will be available to the respiratory membranes.

5. Anemic (hypemic) hypoxia has the same symptoms as hypoxic hypoxia, but it is most often a result of

A. poor blood circulation.
B. use of alcohol or drugs before flight.
C. a leaking exhaust manifold.

6. Altitude-induced hypoxia is caused by what atmospheric condition?

A. Incorrect balance of oxygen and carbon dioxide.
B. Significantly less oxygen molecules at high altitude.
C. Insufficient partial pressure of the inhaled oxygen.

HYPERVENTILATION PA.I.H.K1B

1. A pilot should be able to overcome the symptoms or avoid future occurrences of hyperventilation by

A. closely monitoring the flight instruments to control the airplane.

B. slowing the breathing rate, breathing into a bag, or talking aloud.

C. increasing the breathing rate in order to increase lung ventilation.

2. Rapid or extra deep breathing while using oxygen can cause a condition known as

A. aerosinusitis.

B. aerotitis.

C. hyperventilation.

3. When a stressful situation is encountered in flight, an abnormal increase in the volume of air breathed in and out can cause a condition known as

A. hyperventilation.

B. aerotitis.

C. aerosinusitis.

4. Which would most likely result in hyperventilation?

A. The excessive consumption of alcohol.

B. Emotional tension, anxiety, or fear.

C. An extremely slow rate of breathing and insufficient oxygen.

5. A pilot experiencing the effects of hyperventilation should be able to restore the proper carbon dioxide level in the body by

A. breathing spontaneously and deeply or gaining mental control of the situation.

B. increasing the breathing rate in order to increase lung ventilation.

C. slowing the breathing rate, breathing into a paper bag, or talking aloud.

6. Which is a common symptom of hyperventilation?

A. Tingling sensations.

B. Decreased breathing rate.

C. Visual acuity.

SPATIAL DISORIENTATION PA.I.H.K1D

1. Pilots are more subject to spatial disorientation if

A. visual cues are taken away, as they are in instrument meteorological conditions (IMC).

B. they ignore the sensations of muscles and inner ear.

C. eyes are moved often in the process of cross-checking the flight instruments.

2. Pilots are more subject to spatial disorientation if

A. they ignore the sensations of muscles and inner ear.

B. body signals are used to interpret flight attitude.

C. eyes are moved often in the process of cross-checking the flight instruments.

3. If a pilot experiences spatial disorientation during flight in a restricted visibility condition, the best way to overcome the effect is to

A. rely upon the aircraft instrument indications.

B. concentrate on yaw, pitch, and roll sensations.

C. consciously slow the breathing rate until symptoms clear and then resume normal breathing rate.

4. A lack of orientation with regard to the position, attitude, or movement of the aircraft in space is defined as

A. hyperventilation.

B. hypoxia.

C. spatial disorientation.

5. The danger of spatial disorientation during flight in poor visual conditions may be reduced by

A. having faith in the instruments rather than taking a chance on the sensory organs.

B. shifting the eyes quickly between the exterior visual field and the instrument panel.

C. leaning the body in the opposite direction of the motion of the aircraft.

6. A state of temporary confusion resulting from misleading information being sent to the brain by various sensory organs is defined as

A. spatial disorientation.

B. hyperventilation.

C. hypoxia.

CARBON MONOXIDE POISONING PA.I.H.K1F

1. Large accumulations of carbon monoxide in the human body result in

A. loss of muscular power.

B. tightness across the forehead.

C. an increased sense of well-being.

2. Susceptibility to carbon monoxide poisoning increases as

A. altitude increases.

B. air pressure increases.

C. altitude decreases.

3. What is a correct response if an exhaust leak were to be detected while in flight?

A. Take deep breaths so as to inhale more oxygen.

B. Open air vents or windows.

C. Increase altitude so the effects of CO would be decreased.

4. Effects of carbon monoxide poisoning include

A. motion sickness, tightness across the forehead, and drowsiness.

B. dizziness, blurred vision, and loss of muscle power.

C. sweating, increased breathing, and paleness.

OPTICAL ILLUSIONS PA.I.H.K1K

1. Eye movements during daytime collision avoidance scanning should

A. be 30 degrees and view each sector at least 3 seconds.

B. use peripheral vision by scanning small sectors and utilizing off-center viewing.

C. not exceed 10 degrees and view each sector at least 1 second.

2. The illusion associated with landing on a narrower than usual runway may result in the pilot flying a

A. lower approach with the risk of striking objects along the approach path or landing short.

B. slower approach with the risk of reducing airspeed below VSO or landing hard.

C. higher approach with the risk of leveling out high and landing hard or overshooting the runway.

REGULATIONS: ALCOHOL AND DRUGS PA.I.H.K2

1. How soon after the conviction for driving while intoxicated by alcohol or drugs shall it be reported to the FAA's security office?

A. No later than 60 days after the motor vehicle action.

B. No later than 30 working days after the motor vehicle action.

C. Required to be reported upon renewal of medical certificate.

2. No person may attempt to act as a crewmember of a civil aircraft with

A. .008 percent by weight or more alcohol in the blood.

B. .004 percent by weight or more alcohol in the blood.

C. .04 percent by weight or more alcohol in the blood.

3. Under what condition, if any, may a pilot allow a person who is obviously under the influence of drugs to be carried aboard an aircraft?

A. In an emergency or if the person is a medical patient under proper care.

B. Under no condition.

C. Only if the person does not have access to the flight deck or pilot's compartment.

4. You attended a party last night, and you consumed several glasses of wine. You are planning to fly your aircraft home and have been careful to make sure 8 hours have passed since your last alcoholic drink. You can make the flight now only if you are not under the influence of alcohol and your blood alcohol level is

A. below .04%.

B. 0.0%.

C. below .08%.

5. A person may not act as a crewmember of a civil aircraft if alcoholic beverages have been consumed by that person within the preceding

A. 12 hours.

B. 8 hours.

C. 24 hours.

6. While experiencing a hangover, a pilot

A. may experience discomfort, but no impairment.

B. is no longer under the influence of alcohol.

C. will have impaired motor and mental responses.

AERONAUTICAL DECISION-MAKING PA.I.H.K4

1. A pilot and two passengers landed on a 2,100 foot east-west gravel strip with an elevation of 1,800 feet. The temperature is warmer than expected and after computing the density altitude it is determined the takeoff distance over a 50 foot obstacle is 1,980 feet. The airplane is 75 pounds under gross weight. What would be the best choice?

A. Wait until the temperature decreases, and recalculate the takeoff performance.

B. Try a takeoff without the passengers to make sure the climb is adequate.

C. Taking off into the headwind will give the extra climb-out time needed.

2. Risk management, as part of the aeronautical decision making (ADM) process, relies on which features to reduce the risks associated with each flight?

A. Situational awareness, problem recognition, and good judgment.

B. Application of stress management and risk element procedures.

C. The mental process of analyzing all information in a particular situation and making a timely decision on what action to take.

3. The most important key to risk management is

A. the sense of security provided by experience.

B. understanding pilot predisposition.

C. management of external pressures.

4. One purpose of crew resource management (CRM) is to give crews tools to

A. reduce the need for outside resources.

B. recognize and mitigate hazards.

C. maintain currency with regulations.

AEROMEDICAL AND PHYSIOLOGICAL ISSUES PA.I.H.R1

1. Who is responsible for determining whether a pilot is fit to fly for a particular flight, even though he or she holds a current medical certificate?

A. The FAA.

B. The medical examiner.

C. The pilot.

HAZARDOUS ATTITUDES PA.I.H.R2

1. What is the antidote when a pilot has a hazardous attitude, such as "Antiauthority"?

A. Rules do not apply in this situation.

B. Follow the rules.

C. I know what I am doing.

2. Hazardous attitudes occur to every pilot to some degree at some time. What are some of these hazardous attitudes?

A. Antiauthority, impulsivity, macho, resignation, and invulnerability.

B. Poor risk management and lack of stress management.

C. Poor situational awareness, snap judgments, and lack of a decision making process.

3. In the aeronautical decision making (ADM) process, what is the first step in neutralizing a hazardous attitude?

A. Recognizing hazardous thoughts.

B. Recognizing the invulnerability of the situation.

C. Making a rational judgment.

4. What is the antidote when a pilot has a hazardous attitude, such as "Impulsivity"?

A. Not so fast, think first.

B. Do it quickly to get it over with.

C. It could happen to me.

5. What is the antidote when a pilot has the hazardous attitude of "Invulnerability"?

A. It could happen to me.

B. It cannot be that bad.

C. It will not happen to me.

6. What is the antidote when a pilot has a hazardous attitude, such as "Macho"?

A. Nothing will happen.

B. Taking chances is foolish.

C. I can do it.

7. What is the antidote when a pilot has a hazardous attitude, such as "Resignation"?

A. I am not helpless.

B. What is the use?

C. Someone else is responsible.

DISTRACTIONS, TASK PRIORITIZATION, LOSS OF SITUATIONAL AWARENESS, OR DISORIENTATION

PA.I.H.R3

1. What is it often called when a pilot pushes his or her capabilities and the aircraft's limits by trying to maintain visual contact with the terrain in low visibility and ceiling?

A. Mind set.

B. Scud running.

C. Peer pressure.

2. What often leads to spatial disorientation or collision with ground/obstacles when flying under Visual Flight Rules (VFR)?

A. Duck-under syndrome.

B. Getting behind the aircraft.

C. Continual flight into instrument conditions.

3. What is one of the neglected items when a pilot relies on short and long term memory for repetitive tasks?

A. Situational awareness.

B. Checklists.

C. Flying outside the envelope.

4. What is the one common factor which affects most preventable accidents?

A. Structural failure.

B. Mechanical malfunction.

C. Human error.

06 ORAL EXAM SCENARIO QUESTIONS

Use these questions to practice answering verbally, explaining how you would handle each scenario. Draw upon the memory items above and show how you would manage the risk presented. Just because you can legally do something does not mean it is the safe way to do it. Showing the examiner that you understand the scenario and can relate your knowledge with proper risk mitigation is how you successfully answer the oral exam questions in the ACS.

1. You decide to take a trip to Paso Robles with your significant other for a wine tasting tour. You have a great night out and wake up early the next morning (about 9 hours later) to get out before it gets hot on the ground. As you preflight, you notice that it seems very bright outside and it makes your head hurt. You splash some water on your face, drink some coffee, and feel a bit better. Are you legal to go flying? Are you safe to go flying?
2. You are flying at night through the Banning Pass at 8,000 ft. You notice you have a slight headache, and that your field of vision seems to be narrowing. You glance down at your hands and see that your fingertips have a bluish tint to them. What are you experiencing and what should you do?
3. You are flying with a friend in the evening up at 6,000 feet. As the sun sets you begin to feel cold, so you close the vent window and turn on the cabin heater. About half an hour later, you are beginning to feel drowsy and your friend complains she has a headache. What may be happening and what should you do?
4. What hazardous attitude is represented by the phrase "Watch this!"?
5. The majority of NTSB reports at Harris Ranch Airport (3O8) involve the aircraft landing short of the runway. What about this airport causes pilots to come up short on approach?
6. On a flight in San Luis Obispo you stay at 5,000 ft to avoid the terrain until you are over the airport, at which point you cut the throttle, drop the flaps, and begin a rapid descent to pattern altitude. Suddenly your passenger complains that he has developed an intense pain in his ears, and that his head feels like it might explode. What can you do or advise him to do to help him with this sudden affliction?
7. You plan a trip with friends to Lake Tahoe, and on the day before you leave to come home, your friend surprises you with a scuba diving lesson. What restrictions would be placed on your flight home if you go diving?
8. What process or model do we use to respond to a change in the flight environment?

North Aero, Inc. · Private Pilot Checkride Prep · Task H: Human Factors · Rev 2026-07. Regulatory and AIM quotes verified against the eCFR and FAA publications on 2026-07-31. Hypothermia threshold updated to the standard medical definition (below 95 F / 35 C). This guide is a training aid and is not a substitute for the current regulations, the ACS, or the judgment of your instructor.