

AEROMEDICAL FACTORS (chapter 9)

HYPOXIA

1. Hypoxia is oxygen deficiency in the bloodstream and may cause lack of clear thinking, fatigue, euphoria, and, shortly thereafter, unconsciousness.

HYPERVENTILATION

1. Hyperventilation occurs when an excessive amount of air is breathed out of the lungs, e.g., when one becomes excited or undergoes stress, tension, fear, or anxiety.
 - a. This results in an excessive amount of carbon dioxide passed out of the body and too much oxygen retained.
 - b. The symptoms are dizziness, hot and cold sensations, nausea, etc.
2. Overcome hyperventilation symptoms by slowing the breathing rate, breathing into a bag, or talking aloud.

SPATIAL DISORIENTATION

1. Spatial disorientation, e.g., not knowing whether you are going up or down, is a state of temporary confusion resulting from misleading information being sent to the brain by various sensory organs.
2. If you lose outside visual references and become disoriented, you are experiencing spatial disorientation. This occurs when you rely on the sensations of muscles and inner ear to tell you what the airplane's attitude is.
 - a. This might occur during a night flight, in clouds, or in dust.
3. The best way to overcome the effects of spatial disorientation is to rely on the airplane instruments.

VISION

1. Pilots should adapt their eyes for night flying by avoiding bright white lights for 30 min. prior to flight.
2. Due to the eye's physiology, off-center eyesight is better than direct at night. Pilots should scan slowly at night to permit off-center viewing.
3. Scanning for traffic is best accomplished by bringing small portions of the sky into the central field of vision slowly in succession.
4. Haze can create the illusion of traffic or terrain being farther away than they actually are.

CARBON MONOXIDE

1. Blurred (hazy) thinking, uneasiness, dizziness, and tightness across the forehead are early symptoms of carbon monoxide poisoning. They are followed by a headache and, with large accumulations of carbon monoxide, a loss of muscle power.
2. Increases in altitude increase susceptibility to carbon monoxide poisoning because of decreased oxygen availability.