

Airline Pilots vs. High Blood Pressure

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Hypertension, or high blood pressure, is a common medical condition affecting more than 50 million Americans, most of whom are unaware that they have this condition. The significance of the condition is that it is a major risk factor for heart disease, stroke, and kidney failure. It contributes to more than 180,000 deaths in the United States each year. Only 21 percent of Americans with this condition are under proper treatment.

In adults, regular screening for hypertension with early intervention and treatment has been shown to reduce the risk of cardiovascular disease and death.

The good news is that hypertension can be controlled with the many medications available today. The better news for pilots is that just about any medication on the market today for hypertension is approved for use when flying after an appropriate evaluation. You are a safer pilot and a healthier person if you are flying with medication to control your blood pressure than are those who ignore the condition and avoid monitoring and treatment.

Blood pressure standards

The American Heart Association has recently redefined blood pressure standards. The old myth that blood pressure should rise with age is false. The AHA standards, based on considerable research, do not make allowances for age. Many studies lead to the conclusion that the lower a person's blood pressure is, the lower his or her risk of heart disease. This is especially true for elevated blood pressure, but holds true within the normal range also. The current standards are summarized in the box.

The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure, approved by the National Heart, Lung, and Blood Institute, updates guidelines for the prevention and management of hypertension as of May 2003. These recommendations advocate even lower levels than the AHA standards shown in the box.

FAA blood pressure standards

The FAA's upper limit for blood pressure previously varied depending on a pilot's age and class of certificate.

The standards now allow certification for pressures as high as 155/95 without an evaluation. Pilots who have blood pressures above these levels may still be certified to fly after they undergo cardiovascular evaluation (CVE).

The standards that the FAA has set should not be construed as healthy or "safe" levels. They are maximum levels. Blood pressure near these limits should be evaluated and treated as per the AHA guidelines.

The FAA has delegated to aviation medical examiners (AMEs) the authority to waive use of blood pressure medication when flying if a cardiovascular evaluation is otherwise normal. This change is to encourage pilots to get their elevated blood pressure evaluated, and treated if necessary, without reluctance due to medical certification issues.

Initial treatment without medication

Several steps not involving the use of prescription medications are nearly universally recommended for all people evaluated for hypertension. Modifying risk factors before using

medication is desirable, although somewhat difficult for some. These steps include achieving ideal body weight; lowering salt, fats, and cholesterol in the diet; increasing fiber and heart-protecting nutrients in the diet; participating in an exercise program with your physician's recommendation; and stopping use of tobacco products.

One study found that morning caffeinated coffee raises blood pressure all day.

Other testing is designed to look for treatable causes of hypertension, such as thyroid disease, narrowing of the

Category	systolic	and	diastolic
Normal	<120		<80
Pre-hypertension	120-139	or	80-89
Stage 1 HBP	140-159	or	90-99
Stage 2 HBP	> 160	or	> 100

aorta or renal arteries, endocrine tumors, and diabetes. Co-existent medical conditions should be treated. A study from Duke University in the *American Heart Journal* reports that depression is associated with poor blood pressure control.

Undiagnosed obstructive sleep apnea may also be a cause of hypertension. Treatment for sleep apnea may improve blood pressure and lower risk factors for other diseases, as well as improve alertness and a sense of well-being. An article, patient handout, and editorial in *American Family Physician*, Jan. 15, 2002, explains more about this phenomenon. The FAA disqualifies persons with sleep apnea from flying until an acceptable treatment documents improvement in the condition.

See the FAA protocol for sleep apnea at www.aviationmedicine.com/fsleepapn.pdf.

For additional information about aeromedical concerns and issues go to www.aviationmedicine.com.