

Topics and Issues Just for the Health of Pilots

Monitoring Your Blood Pressure

Some *Practical* Facts About Your Blood Pressure

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Unquestionably, the number-one problem most pilots have during their routine Federal Aviation Administration medical examination is elevated blood pressure (hypertension). This is a concern not only for getting (and keeping) a medical certificate, but in preventing the complications of **stroke, heart attack, and kidney failure** from years of damage to your heart and blood vessels.

Hypertension is often called "the silent killer," because high blood pressure usually causes no symptoms at all. This is the reason you should know your pattern of blood pressure readings, and — if consistently high — get medical advice. Years of straining to pump blood will really do a number on your cardiovascular (heart and blood vessels) system.

The table (below) will give you some reference values. Remember that the new FAA acceptable level is 155/95. For example, either 157/80 or 145/98 would be too high.

Blood Pressure Levels in Adults 18 Years of Age and Older		
	Systolic	Diastolic
Normal	<130	< 85
High Normal	103-139	85-89
Hypertension Categories from the National High Blood Pressure Education Program		
	Systolic	Diastolic
Mild, Stage I	140-159	90-99
Moderate, Stage II	160-179	100-109
Severe, Stage III	180 or >	110 or >
<p>Source: National High Blood Pressure Education Program, American Heart Association</p>		

Systolic pressure is the value (in millimeters of mercury) in the blood vessels when the heart contracts, and the diastolic pressure is the reading when the heart relaxes.

One elevated blood pressure reading is certainly not enough for a diagnosis of hypertension. Blood pressure varies greatly during the day, changing with time of day, exercise, stress (such as having an FAA or insurance exam), fear, anger, anxiety, things you have to eat or drink, and so on. If a reading is high, additional readings are needed to see what your pattern or average is. Many people get "white-coat hypertension"—high readings from the anxiety of having a health professional (such as your doctor) put the cuff on your arm and pump it up. I have had it myself. The FAA realizes the problem and allows the examiner to take additional readings after you have time to become more relaxed—even the next day or so.

Although your blood pressure may meet the FAA-acceptable level of 155/95 or below, levels consistently above 140/90 should be of concern.

For anyone, on or off blood pressure medication, these four practices will be of great help in correcting hypertension:

- 1) Weight reduction if overweight
- 2) Exercise
- 3) Low-salt diet
- 4) Diet low in fats and rich in fruits and vegetables.

(It is assumed that no rational person smokes.)

If you are overweight, a loss of 10 percent body weight will usually lower your blood pressure 10 percent. So, if you weigh 220 pounds and lose 22 pounds, an elevated blood pressure of 150/90 could lower to an acceptable 135/81. You would look and feel better at 198 pounds. Almost invariably, pilots who have consistently high blood pressure are overweight.

Exercise *must* be a part of your plan. Walking briskly for 30-40 minutes every other day is fine. Physical activity lowers blood pressure.

All natural foods such as fruits, vegetables, and grains contain only small amounts of salt (sodium, in the form of sodium chloride). All processed foods are high in salt. The food processing companies add salt to make the food taste better. Our body needs only 200 milligrams (mg) of salt per day, yet we often consume 6000 mg. Canned soups (reported to be so healthful) are a good example of sneaky salt-loading; some contain 800 mg per serving. A full-course fried chicken or fish dinner at a fast-food restaurant may contain 2000 mg of salt, enough to blow your head off if you have high blood pressure.

To be sure, some people are not sensitive to salt and can consume large amounts, but to be safe, most persons—certainly those with hypertension—should limit salt intake to about 2400 mg per day. This is about a teaspoonful. The American Heart Association in November of 1996 found evidence that a diet low in fat and rich in fruits and vegetables was often as helpful as medication in reducing high blood pressure.

Follow all of the above recommendations and you may not have to take medication. If you are on medication, follow these steps absolutely.

The FAA has found most medications for hypertension safe and acceptable. If your physician has prescribed medication, consult your aviation medical examiner for the correct procedure for continued medical certification. Once medication is started, you must be cleared before resuming flying status. This may take as short a time as 3-4 weeks.

Pearls:

- Normal pulse? For men, 70; for women, 75. If your pulse is consistently high, your heart is working too hard. Physical exertion, medication, stress, coffee, smoking, and obesity can all play a part, as can physical problems.
- Factoid: The smaller the species the higher the pulse: a mouse has a pulse of 650; an elephant, 30.

A newborn baby has a pulse of 120. Small animals have a faster pulse than larger ones because they lose body heat faster.

- The best day to get an appointment with your doctor? Tuesday. More likely to be on time.
- Most common cause for pilot error? Fatigue.

Some quick-and-dirty pearls:

- The FAA says: Contact lenses are allowed for correction of far vision only. Glasses are required to correct near vision. (Just have them available when you need them.)
- As of September 16, 1996: For airmen under age 40, Class III medical certificates are good for three years. The two-year renewal limit is the same for pilots age 40 and over.
- Walking is a great exercise, maybe the best. Your body burns mostly fat during walking and other slow-and-steady exercise. Exercises that require bursts of energy burn mostly carbohydrates. Most of us want to melt the blubber. It's hard to hurt yourself walking if you watch out for the traffic.
- The saying, "No pain, no gain" is absolutely wrong. Pain means that you are hurting your body.
- The best tranquilizer? Exercise. An answer to anxiety is exercise.
- The body needs at most 80 mg of Vitamin C (ascorbic acid) per day. In times of physical or mental stress, you may want to take more. Some authorities recommend up to 500 mg a day. If you take this much, get the 500 mg tablets from a discount store. You can get 250 tablets for about eight dollars. Get the cheapest (reputable) brand. Ascorbic acid is ascorbic acid. The body does not know the difference.
- Unless your physician advises against it, go generic on most things you get from the pharmacy.
- The largest organ in the body? The skin, weighing in at about 9 pounds.

Next time, all about cholesterol and heart disease: the basic facts about lipids — total cholesterol, LDL cholesterol, HDL (the "good") cholesterol, and triglycerides. The things you need to know *now*.

Yours for good health and safe flying,

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Note: The views and recommendations made in this article are those of the author and not necessarily those of the Federal Aviation Administration.

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