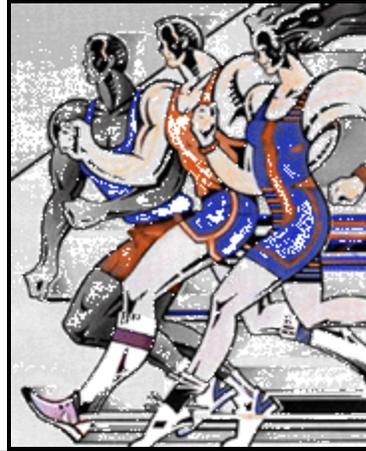


Physical Fitness:

Just About All You'll Ever Need to Know

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A survey of the armed forces during World War II showed that Army Air Corps pilots ranked dead last in physical fitness. Things may be some better now, but certainly not with our country as a whole.

Just look at the lean people in the newsreels and movies of the '40s, and compare them with the porked-out people you see on the street today. We are twice as fat; in fact, the fattest people on earth.

It's all caused by eating more and being less active. Sixty-five percent of us get too little exercise, 25 percent none at all. Diet has been covered before (in previous issues), now the bottom line on what all the experts recommend for exercise, with special emphasis this time on weight- or resistance-training.

The prescription for aerobic exercise (walking, cycling, jogging, rowing, swimming, etc.) is pretty simple—an absolute minimum of 20 minutes three times a week. Better still, 30-45 minutes three or four times a week. Best of all, 45 minutes most days of the week. How strenuous? Just enough to sweat a little, breathe a little faster, and increase our heart rate some. Forget the myth of "no pain, no gain." Why hurt yourself?

Most exercise articles neglect stressing that there is no way to attain fitness without including weight training (barbells and dumbbells) and resistance training (such as weight machines). Which one is better? Either one or both.

Strength training advantages: increases lean muscle mass; reduces fat; strengthens joints, tendons, and ligaments; reduces stress, anxiety, and depression; lowers your risk of cardiovascular disease; helps prevent adult-onset diabetes; decreases colon cancer; helps prevent osteoporosis (bone loss); improves sleeping; helps you think more clearly. (This almost sounds like a commercial for a rip-off product, too good to be true.) All exercise helps release endorphins, the chemicals that help us relax, that cause the "runners' high."

The great news: Now the experts say that only 10-15 minutes training twice a week is plenty. Even better news is that one set of repetitions of an exercise (about 10 times) is as good as two, three, or even four sets of "reps." This was reported in *The Physician and Sportsmedicine* (Feb. 1997).

How to get started? I highly recommend getting in touch with an exercise physiologist for a few sessions before buying any equipment or joining a health club. After all, if you wanted to take up golf, lessons from a pro would be absolutely necessary. This may be the best money you ever spend on your health. Good habits are as hard to break as bad ones. Learning the correct way to lift weights and to use exercise machines is a must. Many people working out in gyms are actually hurting their bodies (especially their backs) by using incorrect form. Very few people even know the proper way to do sit-ups (crunches).

The strength training discussed here is for the average person, certainly not one training for sports competition or for the bodybuilder or power lifter.

Go to a gym or health club that has someone specially trained in exercise physiology, not just a person who has been hired off the street who can demonstrate the equipment and amenities of the club and possibly pressure you into signing up for an expensive membership.

Get a complete tour before you sign up. Talk to other members. The machines available probably will include stationary bikes, treadmills, rowing machines, stair-climbers, cross-country ski apparatus, and so on. There will also be an assortment of weight machines and plenty of free weights.

Try them all to see what you like and will likely stick with, especially before you invest in expensive equipment. The treadmill is probably the favorite. A good one is motorized, has at least a 48-inch track, and will cost about \$1000 if you get a good one. The want ads are replete with bargain buys from exercise dropouts. Avoid all the extras, the bells-and-whistles such as timers, automated routines, calorie-counters, and more information than you need or want.

An example of how to begin training with a pair of dumbbells (not your two partners): Determine how much you can lift—or curl—just one time. Then take 60 percent of this as your beginning weight. Then try to attain ten repetitions with this weight, going slowly from workout to workout. So, if you can lift 25 pounds once, begin with 15 pounds (60 percent of 25 pounds). When you attain ten reps (to fatigue, not exhaustion) with the 15 pounds, then try using 80 percent (20 pounds) of the amount you could lift one time. When your goal is reached, increase weights gradually to the point of fatigue at the end of each set of 10. Contraction and release should be slow, about two or three seconds each. "Progressive overload" is the secret of building lean muscle mass and strength. Just don't overdo it.

Some 'pearls' of strength training (and exercise routines in general)

- Many authorities advise against stretching cold muscles and suggest walking or jogging a few minutes to get the entire circulation going and body heat up and then gently doing a few limbering-up, range-of-motion exercises.
- There is a great difference in working out and hanging out in the gym. The guy

who says he works out about 2½ hours a day may actually be hanging out much of the time, spending lots of time at the water cooler, looking at attractive females, or watching himself in the mirror. Remember, you can get a good resistance workout in 10-15 minutes of actually using weights or machines—just two days a week.

- Do not hold your breath when using resistance. This creates a Valsalva maneuver, which can raise your blood pressure. Breathe out when exerting. Remember: EX-ert; EX-hale.
- Select 8-10 exercises of 10 repetitions each that you enjoy and find helpful for each session.
- Cool down after strength training exercises with a few minutes of walking or jogging and some range-of-motion exercises.
- Allow 48 hours between resistance-exercise sessions for your muscles to rest, "recharge," and increase in size and strength.
- If you are a little sore the next day, no problem. If you hurt so much that you have trouble getting out of bed, you have way overdone it. Rest a day or so, and start over with a less strenuous regimen. "More is not more."
- You need exercise the most when you are "too tired" to exercise. Much fatigue is actually caused by muscle tension from the stress you have had that day. Exercise causes the muscles to relax—you too.
- A flight of stairs is about 12 steps. Twenty flights are equal to about a mile, or 100 calories. No need to buy a stair-climbing machine. Stairs are just about everywhere.
- A 30-minute workout may sound formidable. You can get just as much benefit by breaking it up into three ten-minute sessions.
- Disadvantages of health clubs: Time traveling to and from, dressing and undressing, and showering can all add up to about 30-40 wasted minutes. You continue to sweat for 30 minutes after you stop exerting, so you are still sweating when you dress to go home. Also, memberships cost about 50-100 bucks a month. Most of us are more likely to continue with exercise programs at home.
- Try office push-ups—ten or twenty push-ups from your desk at about a 45-degree angle.
- Avoid boredom by choosing an exercise that you can safely do while watching TV or listening to tapes.
- Women do not "bulk up" with resistance training.
- The secret of success is consistency, motivation, and self-discipline. Exercise is as necessary in your daily life as food, rest, and good friends.

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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