Federal Aviation Administration

# Fit for Flight

## Developing a Personal Fitness Program

The purpose of this brochure is to provide you with basic guidelines for developing a balanced physical fitness program and customizing a workout to fit your needs. We recommend that you consult a physician before starting any type of physical fitness program. Additionally, an exercise physiologist or professional trainer can help you personalize a specific fitness program.

## Benefits of Being Physically Fit

"Use it or lose it!" That old saying not only relates to certain flying skills but also to the human body. Muscles that aren't used tend to atrophy and weaken. To keep muscles and the cardiovascular system working at their optimum levels, they must be stimulated and utilized. Being more physically fit will generally make you look and feel better. Additionally, people that carry too much weight or are bordering on obesity often encounter many health-related problems, ranging from chronic backaches to advanced cardiovascular disease. Finally, a high level of personal fitness can help you to cope with the various emotional and physical stressors that are encountered in the flight environment.

## Get a Physical

Before starting a physical fitness program, it is very important that you get a thorough physical examination. Make sure that you tell your medical professional of your intentions to start a fitness program and get some guidance. Also, it would be a good idea to consult with your AME (aviation medical examiner). These professionals can help to tailor a program that addresses the demands of the flight environment.

## A Change in Lifestyle

Always keep in mind that becoming fit requires a lifestyle change: adjusting your diet, eating the appropriate types of food with ideal portions, deciding to walk a short trip rather than to drive it, taking the stairs instead of the elevator. These all require a different frame of mind and a change in your daily routine. That, in itself, can be a stressor. Your body will be tasking muscles and systems more than ever. With the accompanying muscle soreness and fatigue, many get discouraged and simply give up. Start out slow. Gradually

increase the intensity of your program as your body adjusts to this new lifestyle. But…don't quit!

## Basic Components of a Fitness Program

An effective fitness program includes the following:

- Warm-up
- Flexibility and stretching
- Aerobic conditioning
- Anaerobic conditioning
- Cool-down and stretching

## The Warm-Up and Stretch

The warm-up is an essential part of your workout. It should be adjusted to meet the needs of the type of exercise you plan to perform. Warming your muscles gives the body a chance to deliver plenty of nutrient-rich blood to areas about to be exercised and lubricates the joints. The second part of the warm-up process should include stretching. Its purpose is to increase and maintain muscle flexibility by increasing blood flow to the muscles. Stretching should never overextend the muscle or cause it to burn. With the increase in flexibility and range of movement, stretching decreases the risk of injury.

## Aerobic (Cardio) Conditioning

Your workout should then involve an aerobic (better known as cardio) activity. Aerobic exercise is any activity that uses large muscle groups, can be maintained continuously, and is rhythmic in nature. The exercise tasks the heart and lungs, causing them to work harder than when at rest.

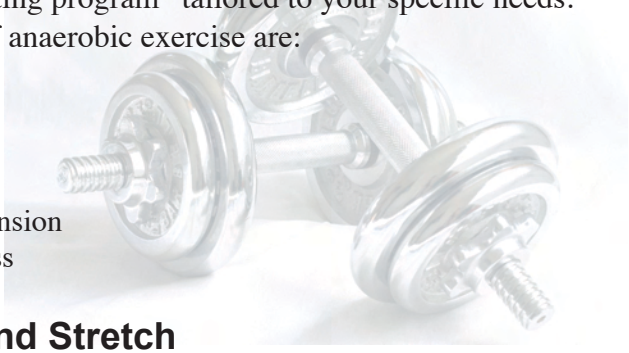
Some examples of aerobic activities:

- Bicycling (on a stationary bike, if preferred)
- Fitness walking (treadmill, if preferred)
- Jumping rope

- Running or jogging (treadmill, if preferred)
- Stair climbing (or Stairmaster, if preferred)
- Swimming
- Organized sports like softball, basketball, volleyball, racquetball

## Anaerobic (Resistance) Conditioning

The effectiveness of your workout would be greatly diminished if it didn't include some type of anaerobic, or resistance training, as a basic component. This type of training tasks a particular muscle or muscle group to increase its strength and/or tone. Exercises can be done by using free-weights, resistance machines, and resistance bands. While free-weights have the advantage of being the most effective, they also have the disadvantage of being less safe. Machines are inherently safer but are less effective. No matter which route you choose, you should always consult a Certified Fitness Professional for proper instruction on equipment use and customizing a "lifting program" tailored to your specific needs. Some examples of anaerobic exercise are:



- Squat
- Bench Press
- Deadlift
- Bicep Curl
- Triceps Extension
- Military Press
- Row

## Cool-Down and Stretch

This is the finishing touch to your workout, a very important part of an overall workout because it keeps the body active, prevents the blood from pooling in your extremities, and flushes the muscles of lactic acid. The cool-down should be performed at a low-intensity of effort, starting with the major muscle groups. Similar to the start of our workout, the cool-down period should also involve stretching. A good cool-down with stretching also helps to limit muscle soreness later.

## Nutritional Considerations

Proper nutrition, fluid intake, rest, and recuperation are important factors for any healthy lifestyle. As your exercise routine increases, these components become more important, as the body needs adequate supplies of these ingredients to function properly. Eating well-balanced meals helps to replenish the nutritional needs of muscles and aids in recuperating from your workouts. A well-balanced meal involves being aware of your intake—especially proteins, carbohydrates, and fats. Most individuals involved in a moderate exercise lifestyle benefit from a diet consisting of meals that are 50-55% complex carbohydrates, 15–20% protein, and 25–35% fat. However, the carbohydrate and protein intake percentages should change, depending on the purpose of your exercise program.

Dehydration is a problem for most people, especially when they begin a fitness program. Exercisers should drink more water than ever before to avoid fatigue and cramping. The average, sedentary person needs two to four quarts of water every 24 hours for normal functioning. Depending on the workout, the weather, and your physical condition, your water intake will need to be increased.

## Your Exercise Program

- Can be very simple or very complex in nature
- Should fit your personal needs, lifestyle, and personality
- Should start slowly and build as you adapt; the old sports adage, “no pain, no gain,” can be very harmful and should by replaced by “in all things, moderation.”

## Just Do It!

Physical fitness is a proven component of a long and healthy life. Physical fitness can also prolong your aviation activities by helping you pass your flight physicals.

# MEDICAL FACTS FOR PILOTS

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