

The Fitness Factor

The success and general efficiency of every military establishment is, in a very large degree, dependent upon the physical fitness, endurance, and condition of the individual units of which it is composed

W. Nash

Is the success and efficiency of today's "high-tech" Air Force dependent upon the physical fitness of its members, or does the quote by W. Nash apply more to the other services? Does control and exploitation of air and space mean that individuals should be physically fit? Although the answers should be a resounding, "yes" the priority and importance of physical fitness in the U.S. Air Force is not that clear. The Air Force fitness programs (past and present) have focused primarily on an annual evaluation of aerobic conditioning, rather than participation in regular exercise and education on exercise techniques and the benefits of exercise. Therefore, the question remains, with the requirement to defend this nation and its interest by performing military operations, whenever, where ever, and for any length of time, does the Air Force fitness program ensure members are physically ready? Can a once a year evaluation of aerobic conditioning help Air Force members develop all areas of fitness to include muscular strength, muscular endurance, flexibility, body composition, as well as, cardiovascular fitness? The Air Force is continually evaluating if weapon systems can perform at their maximum capability; should not it be asking the same questions of its fitness program? This article will focus on just that; evaluating the effectiveness of the Air Force fitness programs--past, present, and future.

Being prepared and being ready is and should be at the heart of most programs in the Air Force. A fitness program is no exception. But looking back, being physically ready is not something we as a nation have always done well. For example, nearly 900,000 of the two million men tested in 1940 were rejected for military service because of mental and physical defects. Furthermore, physicians at the time believed "ninety percent were preventable...and even the boys who passed examinations were not vigorous enough, alert, and strong enough for some of the special forces."¹ Since most individuals did not show up physically prepared, military organizations needed to develop programs that would ensure a physically fit force. The Army Air Corps in 1945 developed what could be considered the first Air Force fitness program. The program could be found in Army Air Force Manual 50-35-1. The program measured aerobic conditioning, muscular strength and muscular endurance by requiring sit-ups, pull-ups, and a 300 yard shuttle run. Each event was given a numerical score and an overall score was determined. Certain jobs required certain minimum scores. The program also offered some "down to earth" advice from the Commanding General of the Army Air Corps, General "Hap" Arnold; "No man expects to live for ever. But the man in perfect physical condition will live longer, especially in combat." He went on to suggest, "... if you are not in top physical condition, they may knock hell out of you. It's as simple as that."²

This was the basis of the Air Force fitness program until the Air Force became a separate service in 1947. The new regulation (Air Force Regulation 50-5, November 1947) was very general and very short consisting of only three major points (listed next).

1. Develop and maintain a high level of physical fitness in individuals so that he can perform more efficiently his assigned duties.
2. Encourage regular and healthful exercise.
3. Foster an aggressive and cooperative team spirit, increase the confidence of the individual, develop sportsmanship, and increase pride through participation in athletics.

This program lacked any specific guidance and a study conducted a number of years later, "concluded that the overall state of physical fitness in the Air Force is poor and that the Air Force physical fitness program, as it now stands, is ineffective."³

During the next few years the Air Force addressed fitness in a chapter of the general training manual. It also introduced weight standards for all individuals. However, in 1963 a study group of Air Force and civilian personnel from Indiana University expressed a need for the Air Force to develop a viable fitness program;

The day is past when the Air Force can afford to spend time and money in fitness programs which have not been carefully adapted to our specific mission. Because of the tremendous significance of fitness and the relationship of individual survival and national security, these programs must be effective.⁴

The Air Force did give fitness its own regulation (Air Force Regulation 50-25 USAF Physical Fitness Program) in 1969. However the regulation did not set any guidelines, but instead placed all the responsibility on individuals; "...each individual is personally responsible to maintain fitness..."⁵

Individuals, apparently were not doing a good job, because in 1972 the Air Force replaced the current regulation with Air Force Regulation 50-49 which required all Air Force members to complete a 1.5 mile run once a year. The run standards were developed by Lt Col (Dr.) Ken Cooper. Dr. Cooper tested over 15,000 men when developing the 1.5 mile run standards. Measuring aerobic capability in a lab using a treadmill and oxygen collecting equipment, Dr. Cooper correlated aerobic capacity with the distance an individual could run in 12 minutes (.90 correlation).⁶ Since it is easier to measure time rather than distance, Dr. Cooper then correlated times with a distance of 1.5 miles. This test quickly became the basis of the Air Force Fitness Program for many years.

The program remained the same with some minor changes over the next years. In 1977, for example the regulation was changed to Air Force Regulation 35-11, USAF Physical Fitness and Weight Control Program. This regulation required faster times for the 1.5 mile run, introduced the three mile walk as an option for completing requirements, and introduced a method for determining a higher maximum allowable weight for some individuals (nonogram). The focus of the fitness program, however, remained an annual run and weigh-in.

In 1980, the Department of Defense reviewed the Air Force fitness program and believed it was not viable. Therefore, in 1981 the Department of Defense (DOD directive 1308.1) directed changes in the Air Force fitness program;

Physical fitness is a vital component of combat readiness and is essential to the general health and well-being of armed forces personnel. Physical fitness training and activities should be designed to develop skills needed in combat, enhance cohesion in units, promote competitive spirit, develop positive attitudes toward exercise, and promote self-confidence and self-discipline. To achieve these ends, physical fitness programs must be carefully planned and supervised, follow the established principals of physical fitness training, and involve the participation of all personnel.⁷

There were few changes in the Air Force program which remained focused on an annual 1.5 mile run and weigh in. Fitness improvement training (FIT) and weight management program (WMP) were added in 1985 for individuals that did not meet standards. In 1989, the times for the 1.5 mile run and three mile walk were slightly reduced. In 1991, weight standards were changed to include a Percent Body Fat measurement, instead of weight (weight could now be used as an indicator only).

It was during this time that the Air Force began testing the use of a cycle ergometer as the method to measure aerobic capacity to replace the 1.5 mile run. The cycle ergometer had been used by the other organizations such as firefighters to check aerobic conditioning for a number of years. The ergometer estimates aerobic capacity by measuring how well the heart and lungs work to transport oxygen to the muscles, and then how well that oxygen is used to perform work. It measures (estimates) milliliters of oxygen per kilogram of body weight per minute.⁸

The initial test of the ergometer standards reported that 31% of the individuals tested did not reach their desired level of fitness.⁹ Mary Cogar, an assistant health promotion program manager stated; "this program will motivate people to participate in regular fitness activities rather than running just once a year."¹⁰ If this happens it would appear that the Air Force cycle ergometer would be the perfect program - a once a year test that motivates individuals to participate in regular (3-5 times a week) fitness activities while educating individuals on proper exercise techniques and the benefits of exercise. Like the 1.5 mile test that it preceded, the program continues to see changes. Jan 1996, Surgeon General officials at Bolling Air Force Base announced the following changes; Hiring a trained exercise physiologist at each base who will be the installation fitness program manager. Eliminating all categories for cycle ergometer (pass or fail) and standardize the process for people who fail the cycle ergometry assessment are a few of the proposed changes.¹¹

Is cycle ergometry what the Air Force needs now and into the next century? Does a once a year test that estimates aerobic capacity ensure individuals are physically fit and prepared for any military contingency? Does it do what the DOD directive required by "enhancing cohesion in units, promote competitive spirit, develop positive attitudes toward exercise and follow the established principals of physical fitness training, and involve the participation of all personnel? The Air Force has advanced so far in the last fifty years in so many areas--have we advanced in

the area of physical fitness? Are we now more physically fit? There are no easy answers motivating 400,000 people to exercise on a regular basis, however, the Air Force, as a minimum should review, analyze, debate, and continually look for methods and ways to improve it's fitness program and the health of each Air Force member. For example, education on proper exercise techniques, the benefits of exercise, nutrition, etc. should be incorporated into the fitness programs. The overall goal of the program should be reviewed. Currently, the goal appears to be to have Air Force members pass a test once a year. What is the motivation to improve if standards are met? Much like quality--fitness is not a destination but a journey. And most experts believe it is a journey of regular, proper exercise.

The list of benefits from physical fitness and regular exercise are numerous and increasing everyday, but it is perhaps former President John F. Kennedy who summarizes the benefits of exercise best:

Physical fitness is not only one of the most important keys to a healthy body, it is the basis of dynamic and creative intellectual activity. The relationship between the soundness of the body and the activities of the mind is subtle and complex. Much is not yet understood. But we do know what the Greeks knew: that intelligence and skill can only function at the peak of their capacity when the body is healthy and strong; that hardy spirits and tough minds usually inhabit sound bodies.¹²

Where else are tough minds and sound bodies needed more than in a military organization that is charged with the defense of a nation. Put together today's reduced military budgets and personnel, modern transportation, night vision and all-weather gear, with any of the world's unstable regions and Air Force personnel could be deployed anywhere in the world in a matter of hours. Once in place throw in long hours in anti-chemical gear and increases in anxiety and there exist a situation that would place a heavy demand on an individual's physical fitness. This scenario demonstrates that fitness will be a factor and more importantly, it will continue to be a factor well into the future. Does the current Air Force fitness program help ensure Air Force members are physically ready? It is a question that should be asked and the fitness program should be continually evaluated, researched, studied, and most importantly, improved. No matter how accurate a once a year evaluation of aerobic conditioning is- it is still a once year evaluation of one area of physical fitness. Military service and military training must be synonymous with physical fitness, because;

Military training is not designed to enhance the militaristic spirit, it builds men up physically... It renders both the individual and nation better able to defend themselves... **No nation has ever survived, and no nation will survive whose people are not physically, mentally, and morally fit for survival.** In military training highly efficient methods are employed for maintaining health and building up physical fitness.¹³

Gordon R. Strong, Lt Col, USAF
AFROTC, University of Iowa

Notes

1. Schellous, R. Air Force Physical Fitness: An Assessment of Characteristics and Programs Which Affect Individual Physical Fitness. (Air Force Institute of Technology, 1982), p. 9.
2. United States Army. Army Air Force Manual 50-35-1, Fitness Handbook (Washington D.C. 1945), P. 2.
3. Balke, Bruno, Ware. The Present Status of Physical Fitness in the Air Force.(Randolf AFB: Research Rep No. 59-67, 1959), p. 9.
4. Conference Report of Meeting Between United States Air Force and Indiana University Personnel Regarding the USAF Physical Fitness Program. (Randolph AFB: HQ Training Command, 1963), p. 3.
5. United States Air Force Regulation 50-25; USAF Physical Fitness Program, (Washington D.C. 1969), p. 1.
6. Ken Cooper, The New Aerobics, (New York: Bantam Books, 1970)
7. Department of Defense Directive on Physical Fitness and Weight Control Programs. (Directive No. 1308. 1, Washington D.C. 198 1), p. 1.
8. Michael Smith, Air Force to Use "Aerobic Capacity" to Judge Fitness. (Air Force Times, Feb, 1992), p. 8.
9. Ibid
10. V. Graham. The Fitness Cycle, (Airmen Magazine, Vol 36), p. 29.
11. Merrie Schilter Lowe, Air Force Improves Fitness Program, (The Communicator, Dec 1995), P. 1.
12. United States Air Force, AF Pamphlet 50-56: USAF Aerobics. (Washington DC, 1966), p. 1.
13. W. Nash. Military Science and Tactics and Physical Education. (New York, AMS Press, 1972), p. 52.