

LAW ENFORCEMENT MANAGEMENT INSTITUTE

MANDATORY PHYSICAL FITNESS FOR POLICE OFFICERS

A RESEARCH PAPER

SUBMITTED IN FULFILLMENT

OF THE REQUIREMENTS FOR

THE LAW ENFORCEMENT MANAGEMENT INSTITUTE

BY

BOBBY J. HARPOLE

TEXAS DEPARTMENT OF PUBLIC SAFETY

STEPHENVILLE, TEXAS

JANUARY 1994

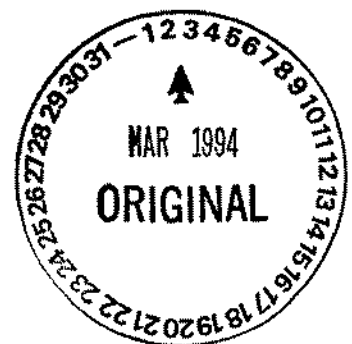


TABLE OF CONTENTS

INTRODUCTION	1
THE NEED FOR PHYSICAL FITNESS	2
LEGAL ISSUES	10
FITNESS PROGRAMS WHICH SPECIFICALLY ADDRESS HEALTH PROBLEMS COMMON TO POLICE OFFICERS	13
IMPLEMENTATION OF A FITNESS PROGRAM	17
Texas Department of Public Safety Assessment Tests Police Fitness Charts	
THE AMERICANS WITH DISABILITIES ACT	23
CONCLUSION	24
ENDNOTES	26
BIBLIOGRAPHY	28

INTRODUCTION

Survival is a key word within most police agencies today. Everyone, from the street officer to the top administrator is concerned with officer survival. The concern with survival is reflected in the amount of money and time spent in training the officers in firearms proficiency, pursuit driving, and street survival skills. Some agencies are so concerned with officer survival that they furnish each officer with a protective vest and make the wearing of the vest mandatory. Yet, as essential as firearms and driver training is, most police officers never fire their weapons in the line of duty during their career and many agencies have, by policy, eliminated or restricted vehicle pursuits.

In most cases, before a person can be hired to be a police officer, s/he must take written exams, pass oral interviews and submit to rigid physical training. Once basic training is completed, the police officer must continue to demonstrate his/her firearms proficiency on a regular basis in order to meet standards set by the department. Unfortunately, in many cases, the training academy is the last time an officer is required to demonstrate continuing physical fitness.

Physical abilities, in contrast with firearms capabilities, are regularly required in police work. Endurance, strength, and physical conditioning are often critical factors in determining the outcome of an encounter between officers and law breakers. Despite this, serious efforts to address the health and fitness of police officers are generally dismissed as well intentioned but somewhat impractical. Some departments do not regard fitness as a critical issue.

There is a growing understanding that the benefits of health/fitness programs for law enforcement agencies are tangible and broad based. Not only can a well-developed fitness program help to reduce injuries, boost morale, and foster a more effective crime fighting force, but it can also be a cost-effective component to a department's overall health care policy. The benefits of an effective and fairly administered health fitness program for law enforcement agencies should no longer be ignored.

THE NEED FOR PHYSICAL FITNESS

Over the last twenty years private business and industry have shown increasing concern for the health and fitness of the employees. Approximately 50,000 business firms in the United States now have programs promoting exercise to keep their employees physically fit.¹ Business and industry justify the establishment of physical fitness programs by the wellness of individual employees which can result in increased productivity.

Major health problems affecting employees in business and industry also affect employees in the public sector, including those in law enforcement. Specifically, the police officer has been stereotyped as a large, overweight, cigar smoking individual whose stomach protrudes over his belt. Research conducted by John M. Violanti in 1985 indicates this to be true in many instances. At least 56% of the nation's police officers are overweight, with 20% of those are more than twenty pounds overweight.² The sedentary nature of the work, the frequently long hours, and the boredom and stress of the job can contribute to an officer's declining physical condition. Many of the health problems commonly associated with police officers are either caused or aggravated by

obesity. Among these are high blood pressure, arteriosclerosis, heart attacks, diabetes, and lower back problems.

Physical fitness and wellness programs have helped decrease the health problems listed above in business and industry and could do the same for police officers. Medical research holds that regular exercise, particularly of the type emphasizing cardiovascular endurance, promotes fitness for most individuals. From the employee's viewpoint, those who are in good health and physically fit generally feel better, work together more cohesively in groups, and exhibit higher job satisfaction.³ A study designed to determine the benefits of an aerobic fitness program to students was carried out in Texas and revealed a positive relationship between grades and fitness level as measured by the twelve minute treadmill test.⁴ Another study performed on students at the Squadron Officers School at West Point showed a correlation between performance on the treadmill test, and academic and leadership qualities.⁵

Benefits for organizations involved in encouraging their employees to take part in active physical fitness programs appear to be substantial. Decreased health care claims, lower job-related injuries, less absenteeism, increased productivity, and higher job satisfaction have been attributed to employee physical fitness.

Some of the research of physical fitness programs indicates that fitness programs more than pay for themselves. In 1983, for example, Tenneco did a comprehensive study of its fitness program and found that the average yearly medical costs for employees who didn't exercise were \$1003.00 for men and \$1535.00 for women. For those who did exercise regularly, the figures were reduced to \$531.00 for men and \$639.00 for women.

In 1986, according to the Association for Fitness in Business, American businesses paid out more than \$70 billion in health-care costs and 500 million workdays were lost to illness and disability. It seems clear that businesses have a responsibility to implement whatever can be done to reduce those numbers. The up front costs for corporate fitness facilities can be high but the pay off is worth it.⁶

A five year study of Prudential's southwestern home office in Houston, published in 1984, showed that fitness participants had 40.6% fewer disability days and had major medical expenses that were 45.7% lower.⁷

Wellness was a fad during the 1970's. During the 1980's, wellness was a trend. In the 1990's wellness has become a necessity. The high cost of health care combined with the proof that a fitness program can reduce health care costs should encourage many businesses to look for the benefits derived from a healthy employee.

Narrowing the scope of the question of the necessity of physical fitness to the law enforcement field, police officers need the benefits that have been achieved by many employees of business and industry. Of major importance to police officers is the growing clinical research supporting the notion that physical fitness can lead to significant reductions in job-related stress.⁸

Health, in a medical sense, relates to the physiological condition of the body. A healthy person is commonly thought of as an individual who is seldom ill. In reality, the state of health of an individual can only be determined by regular comprehensive physical examinations performed by a physician. Common barometers of health include respiratory rate, heart rate, blood pressure, and blood cholesterol levels.

Physical fitness differs from physiological health in that physical fitness is a set of attributes that people have or can achieve that relates to the ability to perform physical activity.⁹ Components of physical fitness are cardiorespiratory endurance, muscular endurance, muscular strength, body composition and flexibility.

Studies conducted at the Aerobics Research Center in Dallas, coupled with information received from other states, reveal that back injuries and cardiovascular problems constitute the highest percentage of causes of police disability retirements.¹⁰ A fitness program for police officers could help reduce these causes of disability by improving flexibility and improving cardiorespiratory endurance.

Health and fitness studies show that physically conditioned officers perform their duties on a higher level than lesser conditioned officers.¹¹ For a law enforcement agency to offer effective law enforcement, it not only must select and hire physically fit individuals, it must develop standards and programs that require officers to maintain established fitness requirements throughout their careers.

Because of the sheer number of departments and the lack of a universally accepted standard for health/fitness policies, it is difficult to determine the extent of significant health promotion programs in American law enforcement agencies. Studies attempting to gauge the status of fitness programs tend to yield confusing results due to classification inconsistencies. For example, does a policy of pre-employment physical classify a department as having a health promotion program? A 1988 survey of the largest police department in each state revealed that at least 22 of the responding agencies had relatively complete health promotion programs.¹²

The routine duties of a police officer are not conducive to good health. A sedentary lifestyle, shift work, and poor eating habits contribute to the poor physical condition of many officers. Stress associated with police work compounds the problem as studies have indicated a direct relationship between perceived stress and physical maladies.¹³

Police officers in poor physical condition become a legal liability for their respective departments. The condition of the officer may create an inability to function effectively in the law enforcement environment. S/he may be unable to handle a physical confrontation, a foot pursuit, or an emergency rescue, which could result in a tragic loss of life . Economic liability is another issue. Police officers in poor physical condition will use more sick leave and suffer more on-the-job injuries than their physically fit counterparts. Higher insurance rates and paid death benefits are also a cost factor for the department.

Physical fitness and wellness programs in business and industry have helped decrease health problems and expenses, and could do the same for employees in the field of law enforcement. Officers may expect an enhanced quality of life as a result of improving their health and physical condition. Most officers will find that they truly feel better as a result of increased attention to their physical well being.¹⁴

In one study conducted on all commissioned officers of the California Highway Patrol, a significant reduction (3.5% to 0.06%) in sick leave days was recorded after implementation of a fitness program. An additional benefit of the program was a significant reduction in job related injuries.¹⁵

Studies have shown further that the single most contributing factor in the early death of law enforcement officers is probably the lack of regular exercise. Odds are ten to one that a police officer will die of a heart attack rather than job related violence.¹⁶

There is particular evidence in Texas suggesting that police officers are average to below average in physical fitness when compared to the general sedentary population. In a study involving the Dallas Police Department, Richardson Police Department and the Texas Department of Public Safety, 213 officers were examined for overall physical fitness. The officers were between 21 and 52 years of age and free from known cardiovascular or other serious disease or disabilities. When the results were compared to the sedentary civilian population of similar age, the younger officers were about the same in all variables except body weight, body fat, and waist circumference, which were slightly higher. A contemporaneous study of 100 inmates in a Texas correctional institution was also conducted which showed the inmates to be in better physical condition than the law enforcement officers.¹⁷

When comparing the economic costs of a physical fitness program with the benefits derived from the program, each agency must look at the potential costs arising from vicarious liability claims. For example, the U.S. Court of Appeals recently upheld a \$400,000 judgement against the District of Columbia Police Department in a case involving the use of deadly force.

Although other problems existed in this case, an interesting issue was raised regarding the lack of physical fitness by the department. A District of Columbia police officer was attempting to arrest the plaintiff, who physically resisted arrest and during the

struggle the officer was unable to subdue the subject and subsequently shot and permanently disabled him. The plaintiff alleged in his suit that had the District of Columbia Police Department required a higher level of physical fitness of the officer, he would have been able to affect the arrest without using deadly force.

Given officer Hays' physical condition, it is not hard to fathom that his most effective method for subduing the objects of his pursuits would be the use of a firearm as opposed to the application of physical force. Officer Hays was not in adequate physical shape. This condition posed a foreseeable risk of harm to others.¹⁸

Implications from this decision may affect how police departments train and cause the development of mandatory physical fitness requirements.

LEGAL ISSUES

The adoption of mandatory physical fitness requirements for law enforcement officers has been controversial to some extent due to the legal ramifications involved. A balance between the right of a police agency to require its commissioned employees to be medically and physically fit and the right of the officer's personal privacy relating to his medical and physical condition will be litigated through the courts.

Research into cases decided by the Federal Courts has revealed few direct challenges to police department mandatory physical fitness programs. Several departments around the country have implemented mandatory physical fitness programs with disciplinary procedures for those who fail to meet prescribed standards.

As related in the Police Chief magazine, court decisions relating to physical fitness standards for police officers usually deal with initial entry requirements.¹⁹ Courts have held that under Title VII of the Civil Rights Act of 1964, employment practices which

appear to be non-biased may nevertheless be unlawful, if they operate to exclude or discriminate against members of certain identifiable groups. In Griggs v. Duke Power Co., the U.S. Supreme Court stated:

Good intent or absence of discriminatory intent does not redeem employment procedures or testing mechanisms that operate as "built-in headwinds" for minority groups and are unrelated to measuring job capability.²⁰

The disparate effect articulated by the Supreme Court in Griggs has been widely used by other courts in determining the validity of height, weight, and physical agility requirements for selection of police officers. Challenges to mandatory physical fitness requirements will probably be based on this holding by the courts.

There are valid defenses against legal challenges to mandatory physical fitness requirements. The courts have suggested that the validity of a physical characteristic or ability requirement is likely to be upheld where a rational basis analysis is used and rejected where a strict scrutiny test is applied.²¹ The key to defending against challenges to mandatory levels of physical fitness is to validate the program as a business necessity or a bona fide occupational qualification. In Robinson v. Lorillard Corporation, the court stated:

The test is whether there exists an over-riding legitimate business purpose such that the practice is necessary to the safe and efficient operation of the business. The business purpose must be sufficiently compelling to override any racial or other prohibited impact.²²

Employers who have been unable to present convincing, correct, and professionally acceptable data to support their assertions that physical characteristic and ability standards are justified by necessity have been unsuccessful in defending those standards.

The use of the bona fide occupational qualification (BFOQ) to validate hiring practices has been narrowly interpreted by the courts. The BFOQ defense, unlike that of a business necessity, is appropriate where an employment practice is facially discriminatory, yet nevertheless thought to be justified. An example of the courts upholding a BFOQ was E.E.O.C. v. New Jersey.²³ In this case the court held that mandatory retirement at age fifty-five was acceptable due to research that heart disease was present in 95% of officers over fifty-five.

The primary theme to any defense of either initial employment or in-service requirements of mandatory fitness levels must center around the tests being job related. In a Texas case decided in 1988, the court held that physical agility and physical assessment testing conducted by the Wichita Falls Police Department was valid.²⁴ Of importance in this case was the fact that women were compared to women and men to men in the testing process. In addition, the court stated that existing tests were shown to be an operational necessity by the department, and therefore valid. The court concluded that even though no formal validation study had been written for the physical agility or physical assessment tests, such was not necessary when, as in this case, the evidence is abundant that successful completion of these tests is necessary to be an effective police officer.²⁵

Several cases have upheld disciplinary action against public safety employees for being overweight and not losing the extra fat in a reasonable period. The Alabama Court of Appeals upheld the termination of a 225 pound fireman for being consistently

overweight.²⁶ In another case, a federal judge in Los Angeles upheld a Los Angeles Fire Department weight requirement standard challenged by paramedics.²⁷

THE AMERICANS WITH DISABILITIES ACT

The Americans With Disabilities Act will most likely have a dynamic impact on any mandatory physical fitness standards set by any organization, whether private or public safety. Many fitness and agility tests presently used by public safety agencies are scored based on the employee's age, or gender, or both. Such tests will be difficult to defend against a challenge brought under the ADA. As a result of ADA, a twenty five year old officer who is unable to meet his department's standards for his age group but can meet the standards for an older age group will be able to argue that higher standards for younger officers are not job related and consistent with business necessity since the employer retains older officers who cannot meet those same standards. Because of it's broad sweep, only pre-employment physical agility testing may violate the provisions of the act.²⁸ An agency which develops a job-related physical abilities test based on appropriate research that shows that certain assessment tests accurately reflect the types of job duties an officer must accomplish would have no problems with litigation.²⁹

FITNESS PROGRAMS WHICH SPECIFICALLY ADDRESS HEALTH PROBLEMS COMMON TO POLICE OFFICERS

Studies conducted at the Aerobics Research Center in Dallas, coupled with information received from other states, have revealed that back injuries and cardiovascular problems constitute the highest percentage of causes of police disability retirements.³⁰

The beneficial role of physical fitness in its relationship to the prevention of coronary heart disease should be recognized by police administrators.

The deposit of cholesterol in the blood vessels of the heart and throughout the body is one of the factors resulting in high blood pressure and/or coronary artery disease. The cholesterol (fatty plaques) collects in the arteries like boiler scale in water pipes. This reduces the internal diameter of the arteries, which causes more rapid blood flow, and is one factor in increasing blood pressure. The increased flow rate and turbulence in the areas of deposits irritates the lining of the arteries, and may dislodge plaques or cause clot formation. These dislodged clots or plaques can then clog the arteries of the heart or brain and stop blood flow to the tissue. This deprives the tissue of oxygen and nutrients, and can result in tissue death. When tissue death occurs in the heart, it can cause an irregular heartbeat or a heart attack.

Coronary heart disease has been related to several risk factors associated with high cholesterol. These include high serum lipids, excessive body fat, elevated blood pressure, smoking, elevated blood sugar and uric acid, excessive emotional stress, physical inactivity and family history.³¹ Several of the heart disease risk factors mentioned above are common to many police officers.

Studies have indicated evidence in favor of the role that exercise plays in preventive medicine. It has been shown by several studies that the sedentary population has a greater number of coronary risk factors (elevated blood pressure, elevated serum cholesterol and triglyceride levels, and obesity) than those engaged in active occupations. Faulkner and Montoye cite an American study in which executives, as compared to the

total population, were found to have higher coronary risk factors.³² Morris, in an English study, showed that the more active postman and bus conductors experienced at least fifty per cent less heart attacks than postal clerks and bus drivers.³³ A study by Paffenbarger and Hale on 6,351 longshoremen, 35 to 75 years of age, indicated that the workers classified in a high caloric output job task had significantly lower death rates from coronary heart disease than those in a low energy cost job.³⁴ Karvonen, in a Finnish study, found that the lumberjacks of an examined community had five times less myocardial infarctions than those engaged in sedentary occupations.³⁵

The American Heart Association declared lack of exercise a major risk factor for heart disease, ranking it with smoking, high cholesterol and high blood pressure. The Association has long said that physical inactivity raises heart disease risk, but the scientific evidence has recently grown strong enough to call it a major risk factor.³⁶ The Association says even modest physical activity will lower a sedentary person's risk of heart disease.

What specific type of exercise will help to improve a person's heart condition and lessen the chances of falling victim to heart disease? Studies have shown that exercise, in any form is a benefit. The frequency and duration of the exercise would determine the benefit received from the exercise.

The amount of fat in the body is related to heart disease, diabetes, cirrhosis of the liver, hernia, intestinal obstruction, back problems and other health hazards.³⁷ The principle involved in reducing body fat is based on the increased number of calories the body burns during physical training. Continuous, moderate, rhythmic type activities, like

running, burn a large number of calories and place the body into negative caloric balance and more calories are expended than are input. The end result is that the body utilizes its stores of fat to make up the deficit, hence a reduction in body fat.

Flexibility is defined as the range of possible motion in a joint or group of joints.³⁸ Many lower back problems can be attributed to lack of flexibility of the lower back muscles. With proper exercise, stiff tight muscles from inactivity can be relaxed and the chance of over stretching and injuring a muscle can be reduced. Static stretching, the firm, steady stretch of muscles is a good way to improve flexibility.

Muscular strength and endurance is obviously important in police work. Strength is defined as the force a muscle group can exert against a resistance in one maximum effort. Muscular endurance is defined as repeated contractions against the same resistance until local fatigue factors interfere with continuation.³⁹

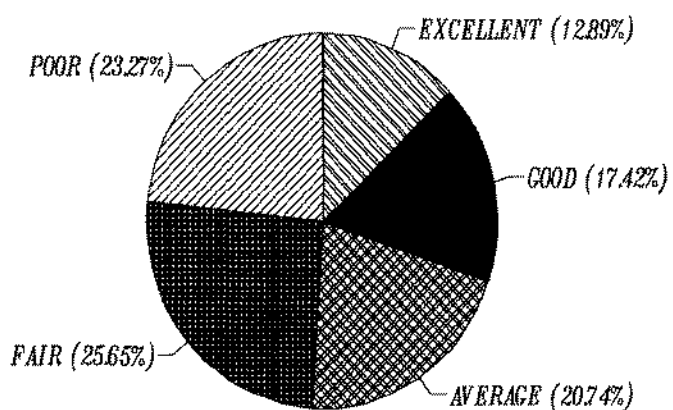
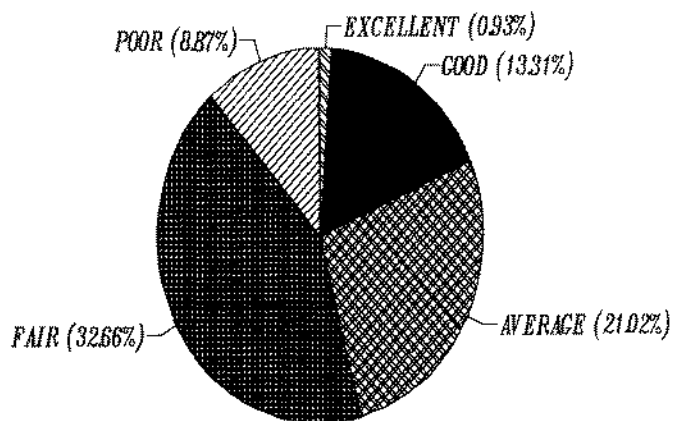
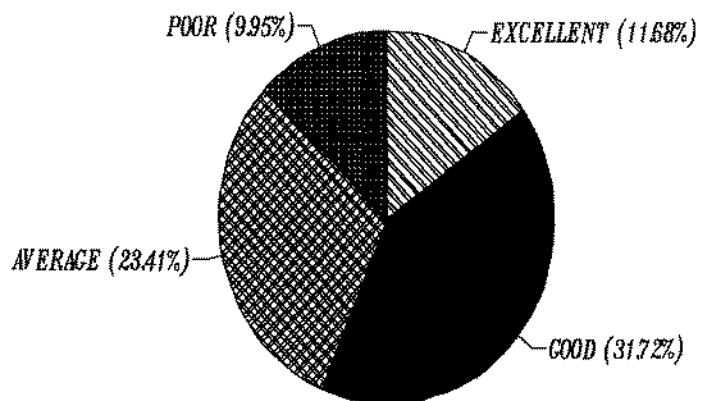
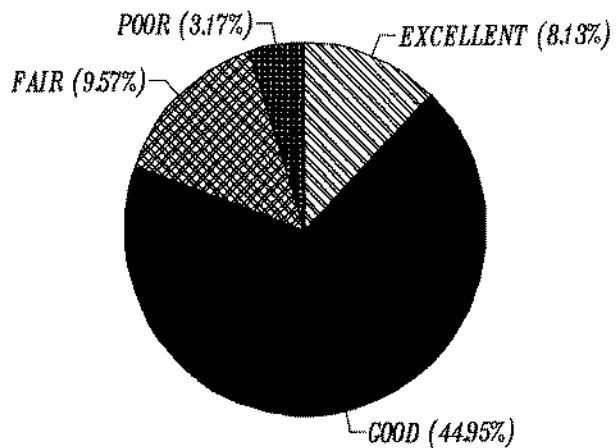
IMPLEMENTATION OF A FITNESS PROGRAM

Implementation of mandatory physical fitness requirements for commissioned employees of the Department will require additional program development, implementation schedules and administrative procedures to insure program compliance.

Program development should follow those guidelines enumerated earlier, with emphasis placed on programs that will help to improve the physical fitness of the Troopers in the areas where assessment tests indicate the most need. From September, 1983 through March, 1984, four health fitness assessment tests were administered to 2140 commissioned members of the Department of Public Safety. These fitness assessments were administered on a voluntary basis to the officers and were administered by the

training staff during in service training in Austin. The results of the tests indicated a significant percentage of the Troopers were below average in body composition, resting heart rate and resting blood pressure (see tables 1-4).

Texas Department of Public Safety Assessment Tests

Body Composition
(Table 1)Resting Heart Rate
(Table 2)Resting Blood Pressure
(Table 3)Flexibility
(Table 4)

The first step in implementation should be a comprehensive medical examination for each commissioned officer by a physician. This exam should be given by a physician furnished by the Department unless the individual officer prefers to use his personal physician. Those officers not certified by a physician to participate in the physical assessment tests should be given counselling by a Department fitness leader and physician to insure they seek and follow medical advice.

Officers may expect an enhanced quality of life as a result of improving their health and physical condition. Many officers will then join the ever increasing number of Americans who are finding that they feel better, look better, work better, and in general live better as a result of increased attention to their physical well being.

The four health standards the Department of Public Safety should adopt are: body composition, resting heart rate, blood pressure and flexibility. Body composition assessment refers to the classification of total body weight into two main components: fat weight and lean weight. The amount of fat (percent of total body weight) in the body is related to heart disease, diabetes, cirrhosis of the liver, hernias, intestinal obstruction, back problems and other health hazards. It is recommended that percent of body fat be maintained at a reasonable standard. Body composition assessment tests can be done inexpensively and rapidly. Body composition can be estimated from simple field tests involving skinfold with skinfold calipers.

Reduction in body weight and fat occurs in response to physical training and has been documented in numerous scientific investigations. The principle involved in reducing body fat is based on the increased number of calories the body burns during physical training. Continuous, moderate, rhythmic type activities, like running, burn a large number of calories and place the body into negative caloric balance.

Dieting alone is not an effective way to reduce fatness as has been proven through several investigations. Although dieting will cause a reduction of weight, 65% of the weight loss is from loss of muscle mass and 35% from fat loss. The proportion of body weight that is fat tissue is the true indicator of body leanness/fatness. This is why a fitness program should use body composition rather than relying on the standard tables used by some organizations which indicate a preferred weight range for a particular height.

The body composition norms of Department personnel would be set according to the officer's age. These norms were developed by Dr. Kenneth Cooper of the Aerobics Research Center in Dallas. (See table 5.) The Department would not ask the officer to do certain physical activities, but would leave it up to the individual officer's discretion as to what physical activities they would like to perform to reach the body composition level required. This gives the officer an opportunity to select an activity that they enjoy and makes the fitness program an enjoyable and long lasting experience.

AEROBICS INSTITUTE OF DALLAS

Police Fitness Chart Ages 20-29 Years

Table 5

Fitness Category	1.5mile run	Body fat	Flexi- bility	Pushups	Situps	Agility Run
Excellent	Below 10:15	Below 6.7	Above 25.9	Above 43	Above 51	Below 16.1
Good	10:16 12:00	6.8 17.3	25.8 19.7	42 28	50 40	16.2 17.7
Average	12:01 14:30	17.4 22.6	19.6 16.6	27 20	39 35	17.8 18.6
Below Average	14:31 16:30	22.7 33.2	16.5 10.5	19 5	34 24	18.7 20.2

Police Fitness Chart Ages 30-39 Years

Fitness Category	1.5mile run	Body fat	Flexi- bility	Pushups	Situps	Agility Run
Excellent	Below 11:00	Below 13.8	Above 26.4	Above 37	Above 45	Below 16.2
Good	11:01 13:00	13.9 21.5	26.3 19.2	36 23	44 34	16.3 18.1
Average	13:01 15:30	21.6 25.4	19.1 15.6	22 17	33 29	18.2 19.1
Below Average	15:31 17:30	25.5 33.0	15.5 8.4	16 3	28 18	19.2 21.0

Police Fitness Chart Ages 40-52 Years

Fitness Category	1.5mile run	Body fat	Flexi- bility	Pushups	Situps	Agility Run
Excellent	Below 11:30	Below 16.8	Above 23.3	Above 28	Above 39	Below N.A.
Good	11:31 14:00	16.9 22.9	23.2 16.3	27 18	38 26	N.A.
Average	14:01 16:30	23.0 26.0	16.2 12.8	17 13	25 19	N.A.
Below Average	16:31 18:30	26.1 32.2	12.7 5.7	12 2	18 6	N.A.

The second health evaluation the Department should use is the resting pulse. This measurement can be performed with or without any equipment. When checking the resting heart rate, you are actually checking for an indicator of cardiovascular condition which represents the capacity of the heart and blood vessel to respond to a demanding task and recover quickly from that task with adequate physical reserve. The resting heart rate is telling you how hard your heart is working while at rest. This can be checked by palpating the carotid or radial pulse and figuring the pulses per minute.

The third assessment the Department should use is blood pressure. Blood pressure is the pressure of the circulating blood against the walls of the arteries. If the blood pressure is abnormally high, damage or rupture of the vessels in the arterial circuit may occur.

Blood pressure is recorded at systolic and diastolic levels. Systolic pressure is the level present during the contraction of the heart. Diastolic pressure is the level present during the relaxation of the heart. Blood pressure is determined with a sphygmomanometer and a stethoscope and can be measured in a short period of time and the required equipment is relatively inexpensive.

Many lower back problems are attributed to lack of proper exercise of lower back muscles. The fourth health standard the Department should use is the lower torso flexibility assessment. Flexibility is defined as the range of possible movement in a joint or group of joints.

No general flexibility test measures the flexibility of all joints; however, the trunk flexion or the sit and reach test serves as an important measure of hip

and back flexibility. Primarily, the elasticity of the muscles in the back of the legs and trunk is tested in the sit and reach position.

Minimal equipment needed for the flexibility assessment(sit and reach) is a thirty-six inch yardstick and a wooden or cardboard box. Measurement of flexibility is obtained as the officer sits on the floor or mat with legs extended at right angles to the box. The heels touch the near edge of the box and are approximately eight inches apart. A yardstick is placed between the legs of the officer and rests on the box with the fifteen mark on the edge of the box. The officer would slowly reach forward with both hands as far as possible and holds the position momentarily. The distance reached on the yardstick by the fingertips is recorded. The longest distance reached in three attempts is recorded as the flexibility score.

CONCLUSION

Arguments for and against physical fitness requirements will center initially around the cost of implementation. Cost factors such as medical examinations, equipment, loss of duty time, workman's compensation claims during training, and the decision on whether to allow duty time for fitness training will be high. However, recent studies have indicated that direct medical and health care cost savings are being realized in those occupations where exercise programs are in effect. In addition, the potential liability costs arising from incidents involving officers who are physically unfit to do the job required may be considerable. Ultimately, the cost of doing nothing may be more than a police agency can afford.

I have been employed by the Texas Department of Public Safety for twenty-five years. During this period I have seen a shift in the attitude of Troopers. Early in my career, during a week of training in Austin it was most common for the Troopers to leave the training academy at night to pursue personal interests of a wide variety. Now, at the end of classes each day, the gym is full of Troopers playing basketball, the new weight room is full of Troopers, and the new jogging track is full of joggers.

Because of a recent retirement incentive passed by the Texas State legislature, our Department has recently lost many commissioned officers to retirement. The average age of the commissioned officers in our Department is getting younger. The interest in being physically fit is growing within our Department as evidenced by the use of the facilities at our training academy. The Department should take advantage of this increased interest in fitness by at least making available to the Troopers the research information on the common ailments facing police officers and the fitness programs available which help combat these ailments.

The Department could provide it's commissioned officers with the standards set by Dr. Kenneth Cooper (table 5) as a personal goal set by each officer, but should they choose to require a mandatory standard, select one standard which is reasonable for all commissioned officers, regardless of age or sex.

The Department could introduce the research information and the standards set by Dr. Cooper's research to the Department of Public Safety recruit trainees during the 22 week training academy. Many hours are spent on

physical training during the academy, and emphasis could be placed on those particular exercises that have been found to help reduce physical ailments that are common to police officers.

Each commissioned officer of the Department is required to attend a 40 hour in-service training school in Austin every other year. This in-service school would be an ideal time to administer the comprehensive medical examination, counselling, and to present classes on the common health problems facing police officers and the different programs available which address these health problems.

The Department's goal, with the recruits and the veteran officers, should be to present a program in such a manner that each group understands the health problems facing all police officers and knows how they can help themselves overcome or reduce these health problems.

The Department should, as a minimum, present the research information and training to all its officers. The decision on making a physical fitness program mandatory will have to come after many hours are spent by its leaders debating the issues involved. If a Trooper becomes involved in a court action which alleges poor physical condition of the officer kept him from performing his job properly, the presence of fitness program within the Department, whether mandatory or voluntary, could have a tremendous financial impact.

ENDNOTES

1. Driver, Russell W., Roland A. Ratliff, "Employees Perceptions of Benefits Accrued from Physical Fitness," Personnel Administrator, (August 1982),21.
2. Violanti, John M., "Obesity: A Police Health Problem," Law and Order (April 1985),58.
3. Driver, Personnel Administrator, 26.
4. Cooper, K.H. "Aerobics" (paper presented at the National Conference on Fitness and Health, Ottawa, Ontario. December 4,5,6, 1972): 55-56.
5. Cooper, K.H. Aerobics. Toronto, Bantam Books of Canada, (1968).
6. Gambaccini, Peter. "The Perfect Blend." Runner's World, (July 1987),68.
7. Ibid., 69.
8. Hoffman, John J., Jr., Charles J. Hobson," Physical Fitness and Employee Effectiveness," Personnel Administrator (April 1984),104.
9. Casperson, Carl J., Kenneth Powell, Gregory M. Christensen, "Physical Activity, Exercise, and Physical Fitness: Definitions and Distinctions for Health Related Research," Public Health Reports, 100, no.2 (1985): 126-131.
10. Price,Clifford S., Michael L. Pollock, Larry R. Gettman, Deborah A. Kent, Physical Fitness for Law Enforcement Officers: A Manual for Police Administrators, U.S. Government Printing Office, Washington, D.C., (1972), 148.
11. Sweeney, Lawrence. "Strength Training: For Your Job, For Yourself." Law and Order, 40, no. 3 (1992): 32-37.
12. Boyce, R. "Physical Fitness/Health Promotion Questionnaire," conducted at University of North Carolina at Charlotte, Department of Health and Physical Education (1989).

13. Norvell, Nancy, Dale Belles, and Holly Hills. "Perceived Stress Levels and Physical Symptoms in Supervisory Law Enforcement Personnel." Journal of Police Science and Administration 16, no.2 (1988): 75-79.

14. Driver, Russell, and Roland Ratliff. "Employees Perceptions of Benefits Accrued from Physical Fitness." Personnel Administrator 27, no. 8 (1982): 21-26.

15. Superko, Robert, and Edward Bernauer. "Effects of a Mandatory Health Screening and Physical Maintenance Program for Law Enforcement Officers." The Physician and Sports Medicine 16, no. 9 (1988): 99-109.

16. Andeson, Mike, "Atlantic Beach Officers Exercise Regularly." Law and Order, (February 1986),32.

17. Gettman, Larry R., Physical Fitness Programs for Law Enforcement Officers; A Manual for Police Administrators, U.S. Government Printing Office, Washington, D.C. (1972).

18. Parker v. District of Columbia, 850 F. 2d 791.

19. Serra, Roger C. "Police Officers Physical Fitness Battery." The Police Chief 51, no. 1 (1984),45.

20. Griggs v. Duke Power Co., 91 S.Ct. 849 (1971)

21. Vanguard Justice Society, Inc. v. Hughes, 471 F. Supp. 670.

22. Robinson v. Lorillard Corp., 444 F.2d 791.

23. E.E.O.C. v. New Jersey, 631 F. Supp. 1506 (1986).

24. U.S. v. Wichita Falls, U.S. District Court, Northern District of Texas, Consent Decree 7-75-31, 1975; 7-75-31-E, 1988.

25. U.S. v. Georgia Power Co., 474 F.2d 708.
26. Smith v. Fulmar, 523 So. 2d 1085 (Ala. Civ. App. 1988).
27. United Paramedics v. City of Los Angeles, No. 89-118R (C.D. Cal. 1989).
28. Litchford, Jody. "The Americans with Disabilities Act." The Police Chief 58, no. 1 (1991),11.
29. Peak, Ken. "Physical Abilities Testing for Police Officers: A Flexible Job Related Approach." The Police Chief 59, no. 1 (1992): 51-56.
30. Gettman, Larry R., Physical Fitness Programs for Law Enforcement Officers, A Manual for Police Administrators, U.S. Government Printing office, Washington,D.C., 1972.
31. Gettman, p. 67.
32. Faulkner, J.A., Montoye, H.J. and Greey, G.W., "A Comparison of Executives With a Total Population in Physical Activity and Other Possible Coronary Heart Disease Risk Factors." Journal of Medical Science Sports,(September 1969), 1, 160-164.
33. Morris, J.N. et al. Coronary Heart Disease and Physical Activity of Work. Lancett. (November 1953), 2, 1053-1057.
34. Paffenbarger, R.S. et al. "Work Activity of Longshoremen As Related to Death From Coronary Heart Disease and Stroke." New England Journal of Medicine,(1970), 282, 1109.
35. Kavronem, M.J., "Physical Activity, Cholesterol, Metabolism and Atherosclerosis." Journal of the American Medical Association,(August 1963): 11,122.
36. Malcom Ritter, "Lack of Exercise, Heart Disease Linked in Study," Ft. Worth Star-Telegram, (3 July 1992): sec B, p.2.

37. Pollock, Michael L., To Your Good Health, Amsco Publications, New York, N.Y.(1970).

38. Gettman, 1972

39. Gettman, 1972.

BIBLIOGRAPHY

- Andeson, Mike. "Atlantic Beach Officers Exercise Regularly." Law and Order, February 1986, 32.
- Boyce, R. "Physical Fitness/Health Promotion Questionnaire." conducted at University of North Carolina at Charlotte, Department of Health and Physical Education, 1989.
- Casperson, Carl J., Kenneth Powell, and Gregory M. Christensen. "Physical Activity, Exercise, and Physical Fitness: Definitions and Distinctions for Health Related Research," Public Health Reports, 100, no. 2, 1985
- Cooper, K. H. "Aerobics" (paper presented at the National Conference on Fitness and Health, Ottawa, Ontario. December 4, 5, 6, 1972).
- Cooper, K. H. Aerobics. Toronto, Bantam Books of Canada, 1968.
- Driver, Russell, and Roland Ratliff. "Employees Perceptions of Benefits Accrued from Physical Fitness." Personnel Administrator. 27, no. 8, 1982.
- E. E. O. C. v. New Jersey, 631 F. Supp. 1506 (1986).
- Faulkner, J. A., Montoye, H. J., and Greey, G. W. "A Comparison of Executives With a Total Population in Physical Activity and Other Possible Coronary Heart Disease Risk Factors." Journal of Medical Science Sports. September 1969, 1, 160-164.
- Gambaccini, Peter. "The Perfect Blend." Runner's World, July 1987, 68.
- Gettman, Larry R. Physical Fitness Programs for Law Enforcement Officers, A Manual for Police Administrators. U.S. Government Printing Office, Washington, D.C., 1972.
- Griggs v. Duke Power Co., 91 S.Ct. 849 (1971)
- Hoffman, John J., Jr., Charles J. Hobson. "Physical Fitness and Employee Effectiveness," Personnel Administrator. April 1984, 104.
- Kavronem, M. J. "Physical Activity, Cholesterol, Metabolism and Atherosclerosis." Journal of the American Medical Association, (August 1963): 11-122.
- Litchford, Jody. "The Americans with Disabilities Act." The Police Chief 58, no. 1, 1991, 11

Morris, J.N., et al. Coronary Heart Disease and Physical Activity of Work. Lancett. (November 1953): 2, 1053-1057.

Norvell, Nancy, Dale Belles, and Holly Hills. "Perceived Stress Levels and Physical Symptoms in Supervisory Law Enforcement Personnel." Journal of Police Science and Administration 16, no. 2 (1988): 75-79.

Paffenbarger, R.S. et al. "Work Activity of Longshoreman As Related to Death From Coronary Heart Disease and Stroke." New England Journal of Medicine, (1970): 282, 1109.

Parker v. District of Columbia, 850 F. 2d 791.

Peak, Ken. "Physical Abilities Testing for Police Officers: A Flexible Job Related Approach." The Police Chief 59, no. 1 (1992): 51-56, 26

Pollock, Michael L., To Your Good Health, Amsco Publications, New York, N.Y. 1970.

Price, Clifford S., Michael L. Pollock, Larry R. Gettman, Deborah A. Kent, Physical Fitness for Law Enforcement Officers: A Manual for Police Administrators, U.S. Government Printing Office, Washington, D.C., 1972, 148.

Ritter, Malcom, "Lack of Exercise, Heart Disease Linked in Study," Ft. Worth Star-Telegram, 3 July 1992, sec B, p. 2.

Robinson v. Lorillard Corp., 444 F.2d 791.

Serra, Roger C. "Police Officers Physical Fitness Battery." The Police Chief 51, no. 1, 45.

Smith v. Fulmar, 523 So. 2d 1085 (Ala. Civ. App. 1988).

Superko, Robert, and Edward Bernauer. "Effects of a Mandatory Health Screening and Physical Maintenance Program for Law Enforcement Officers." The Physician and Sports Medicine 16, no. 9 (1988): 99-109.

Sweeney, Lawrence. "Strength Training: For Your Job, For Yourself." Law and Order, 40, no. 3 (1992): 32-37.

U.S. v. Georgia Power Co., 474 F.2d 708.

U.S. v. Wichita Falls, U.S. District Court, Northern District of Texas, Consent Decree 7-75-31, (1975); 7-75-31-E, (1988).

United Paramedics v. City of Los Angeles, No. 89-118R (C.D. Cal.1989).

Vanguard Justice Society, Inc. v. Hughes, 471 F. Supp. 670.

Violanti, John M., "Obesity: A Police Health Problem," Law and Order, April 1985, 58.