



MODEL PROGRAM:

PUBLIC SAFETY PHYSICAL READINESS

Introduction

The decline of health and fitness among those in the law enforcement community is an indisputable fact. The consequences of this phenomenon are also well known; greater vulnerability to on-duty injury and illness, increased exposure to liability and loss of respect by the public at large, among others. In 2002 the National League of Cities' (NLC) captive reinsurance facility, NLC Mutual Insurance Company, partnered with several law enforcement organizations to form a national Task Group to study the problem and to develop possible solutions. Initial Task Group participants consisted of

- **Commission on Accreditation for Law Enforcement Agencies**
- **Fraternal Order of Police**
- **International Association of Chiefs of Police**
- **National Sheriffs' Association**
- **National Organization of Black Law Enforcement Executives**
- **International Association of Directors of Law Enforcement Standards and Training**
- **Police Executive Research Forum**
- **American Society for Law Enforcement Training**
- **NLC Mutual Insurance Company**
- **FitForce™.**

The Task Group held its initial meeting on August 21, 2002 at CALEA headquarters in Fairfax, Virginia.

After consideration of this issue by members of the Task Group, it was concluded the drafting of a generic Voluntary Law Enforcement Fitness/Wellness Model Program would be the most effective approach. The Task Group envisioned an easily adaptable model, which would be universally viewed as positive and in the best interests of both law enforcement agencies and their personnel. The final version of the model was adequately flexible to permit some

expansion by its users to incorporate incentives or other measures should the adopting agency deem it appropriate.

This Model Program is a revised version of the original. Task Group members signed off on the original version and since then several of the participants have promulgated official statements in support of it. In the interim, principals including the NLC Mutual Insurance Company, FitForce™, Risk Probe, Inc. and several state league pools - to date Colorado Intergovernmental Risk Sharing Agency (CIRSA), Florida League of Cities, Safety Benefits, Inc. representing South Dakota, and Texas Municipal League – Intergovernmental Risk Pool have participated in the development of a pilot program to consider best practices and to test the efficacy of an agency-based health risk reduction focused program.

*Although the original model program was focused on law enforcement, all public safety and other agencies would equally benefit from such a **peer counseling** approach.* In addition, our experience so far has demonstrated the need for a cooperative, collaborative program that emphasizes partnership with community-based medical, education, and fitness resources. The project is a work in progress supported by internet- based resources and those agencies participating. This revision to the model program represents the same approach. In an attempt to better serve the public safety community, FitForce™, the principal author of the model, is providing this resource and others consistent with the agency-based implementation of same.

Model Program

Mission Statement: Develop a guide for a cost effective, voluntary law enforcement fitness and wellness program that serves the interests of the agency, its individual officers and the community it serves.

Facts Bearing on the Mission:

A public safety *Physical Readiness Program* helps to ensure that:

- officers have the requisite fitness to perform their duties;
- officer's lifestyle habits will decrease health risks and improve quality of life;
- agencies reduce their liability by ensuring officers' physical readiness to perform while controlling risk and its associated costs.

A *Physical Readiness Program* has two main elements. The first ensures the development and maintenance of physical performance capability, that is the ability to perform job tasks and personal leisure time activities. The second element addresses the officers' health status, both present status as well as the risk of future disease. This total fitness- health and physical performance is achieved through the development of good lifestyle habits, taught and supported by the agency's administrators. These fitness lifestyle areas - exercise, nutrition, weight management, stress management, tobacco cessation,

substance abuse prevention, and health risk management - are the foundation of the agency-based program.

Working Definitions

A basic and common understanding of the program names and elements is necessary. The capability to perform the essential physical tasks at a minimum level of safety and effectiveness requires knowledge, skill and physical fitness.

We define **Physical Fitness** as:

the ability to meet life's daily demands, without undue fatigue, while maintaining sufficient energy for leisure time pursuits and to overcome emergency situations that may arise personally or professionally.

(Adapted from the President's Council on Physical Fitness and Sports, 1971).

The components of physical fitness are:

- *cardiovascular endurance*, the ability to deliver oxygen to the working muscles to sustain activity, necessary in 11% percent of foot pursuits and over 50% of use of force encounters ¹;
- *anaerobic power*, the ability to make short, intense bursts of maximal effort , which underlies the ability to run short distances and up stairs;
- *muscular strength*, the muscles' ability to generate maximal force, necessary for control and restraint;

¹ Wollack & Associates (1992). *Multijurisdictional law enforcement physical skills survey*. Sacramento, CA: Wollack & Associates.

- *muscular endurance*, the muscles' ability to sustain sub-maximal force, also necessary for lifting, pushing, pulling, carrying;
- *flexibility*, the ability to use the available range of motion at a given joint or structure, used in virtually all day to day movements as well as some of the more demanding physical tasks;
- *body composition*, the ratio of fat to lean muscle mass, associated with physical performance and health;
- *agility* is the ability to generate speed, to start and stop, and to change direction;
- *explosive leg power* is the ability to generate force or overcome resistance rapidly as in jumping.

Health is frequently thought of as the absence of symptoms. However, due to the aging process, symptom-less diseases and the nature of the public safety work environment, apparent health may only be temporary. A more comprehensive definition suggests health is *a state of complete physical, mental and emotional well being*. **Wellness** may subsequently be defined as *those purposeful actions taken to attain and maintain optimal health and fitness*.

These definitions indicate fitness, health and wellness are not synonymous but integrally related and complimentary. Therefore, a ***total fitness and wellness program*** rather than simply a fitness program or wellness program is recommended.

Fitness and Health

A review of the current fitness and health status of Americans overall and public safety specifically provides further justification for an agency-based intervention. More than 50% of the deaths in this country are related to lifestyle choices. **Poor lifestyle habits** needlessly result in both early deaths and high health costs:

- *cigarette smoking*, the single most preventable cause of death and disease in the United States, costs over \$138 billion a year or almost \$3400 per year per smoker in health care costs. Some states such as Massachusetts have a smoking prohibition for public safety employees;
- *obesity* (+ 25% body fat for males and +30 % for females) is linked to diabetes, hypertension, and cancer as well as orthopedic problems such as low-back pain, for the law enforcement officer. Body fat also affects health, physical performance and appearance;
- *poor nutrition* accounts for over \$33 billion in medical costs and \$9 billion in lost productivity due to diet-related diseases. Law enforcement officers have a higher mortality index for diabetes and colon cancer – both nutrition-related diseases;
- *alcohol and drug abuse* are estimated to cost more than \$143 billion annually to taxpayers in preventable health care costs and other expenses;

- *sedentary living* doubles the risk of heart disease , and is implicated in higher rates of stroke, colon cancer, and back problems, this combined with the physical and mental stress of the job as well as the absence of an agency fitness program contribute to sedentary living;
- *stress* accounts for up to two-thirds of visits to primary care physicians, and stress management is consistently defined as an in-service training priority by agencies;
- *health risk reduction* refers to the management of known health risks such as pre-diabetes or diabetes, smoking, etc. The *Healthy People 2010* initiative identifies 47 prevention goals and measures for individuals in the United States.

Coronary artery disease- heart and blood vessel disease and stroke, is the leading cause of death in America. In 2003, an estimated 1.1 million Americans had a heart attack – over 3000 per day. The direct (medical) and indirect (including lost productivity) costs of coronary artery disease were estimated at over \$350 billion in 2003. Cancers cost the United States over \$170 billion - \$110 billion in lost productivity and \$60 billion in direct medical costs in 2002. Nearly 20% of all US cancer deaths were due to colorectal, breast, and cervical cancers – many of which may be treated or avoided with early detection.

As an occupational group, law enforcement officers have greater morbidity and mortality rates than the general public, principally due to cardiovascular disease, colon cancer, and suicide. Various law enforcement agencies have

calculated the cost of an in-service heart attack to be between \$400,000 and \$750,000! Surveys suggest heart disease accounts for 20 – 50 % of early retirements² and back problems for 15 – 35%³. In fact, younger officers (<35) have a lower risk of medical problems than the average American but those 35 and older have a higher risk⁴.

One study of a major metropolitan police agency indicated that almost 50% of its officers had at least three of the five major risk factors for heart disease – high cholesterol, smoking, obesity, inactivity or poor cardiovascular fitness or high blood pressure⁵. Finally, most published and anecdotal experience suggests police officers live on average 2-5 years post retirement, depending on the source. This results in a shortened life expectancy. The job itself doesn't cause poor officer health and fitness. The lack of personal and agency fitness programs is more likely the culprit.

General population studies suggest that less than 10% of Americans exercise regularly and vigorously enough to improve their fitness and 60 % are not active enough to maintain their current level of fitness. *Exercise is a planned, purposeful activity to improve one of more of the fitness parameters. Activity, on the other hand, can be continuous or discontinuous whole body movement such as hiking, hunting, or yard work.* Both affect health. Exercise and activity positively affect mood, outlook, stress levels, fat metabolism, blood lipids, insulin sensitivity, cardiorespiratory efficiency, blood pressure, body weight, and delay

²Smith, 2010. *FitForce Coordinator Guide, 2nd Ed.* Monterey, CA: Coaches Choice (in press)

³ Ibid

⁴ Ibid

⁵ Ibid

the development of age-related disorders such as osteoporosis. In fact, conditions related to inactivity claim as many as 250,000 lives annually⁶ – the Vietnam War claimed 58,000 American lives.

A very prominent and frequently cited population study⁷ conducted by Dr. Steven Blair of the Cooper Institute for Aerobic Research illustrates the beneficial effects of fitness and health. Dr. Blair has followed a sample of almost 10,000 men for over 25 years. Because 20% initially had all of the major risk factors for heart disease, he divided his sample into five increments, calling the bottom 20% the “unfit”.

Currently there are about 600,000 law enforcement officers in the United States. Extrapolating Dr. Blair’s findings to the law enforcement population, in any given year we would expect 475 deaths due to cardiovascular disease in the least healthy 20 % of the law enforcement population, compared to 100 deaths amongst the other 80%. This is in stark comparison to the 100 or 110 officers lost in the line of duty in most years. Given what we know about American’s exercise habits, it is reasonable to assume that the bottom 20% of the population is sedentary. Therefore, becoming active can reduce the risk of dying from cardiovascular disease by 78%.

The Practical and Real Benefits of a Program

A Total Fitness and Wellness Program can produce a host of benefits for participants and the agency alike. By improving their personal fitness levels,

⁶ Sharkey, BJ (1997). *Fitness & Health, 4th Ed.*. Human Kinetics : Champaign, IL.

⁷ Blair et.al. (1989). *Physical fitness and all cause mortality: A prospective study of healthy men and women*. J. of the Am. Med. Assoc., 262, 2395-2401.

officers will enjoy:

- Improved capability to perform specific tasks;
- Improved ability to mobilize the body efficiently – get up and go;
- Improved tolerance to fatigue;
- Reduced risk during physical tasks;
- Better psychological preparation;
- Reduced stress and health risks.

Exercise is a planned and healthy stressor – *eustress*. By routinely conditioning the body's systems, health and fitness can be achieved. In addition, exercise can help to reduce stress in four ways: It can impart a sense of self-control and confidence; It can reduce the intensity of the physiological changes associated with the stress reaction; It reduces the chronic negative physical effects of stress; And it trains the body to adapt to and recover from critical events or other stressors.

Health and fitness also represent a sound investment for the employing agency. Studies with law enforcement officers indicate more fit and active officers have 40-70% less absenteeism than less fit officers⁸. The cost savings associated with disability are manifold:

- Partial disability means a loss of flexibility in assignments;
- Total disability results in a loss of valued personnel;
- The expense of disability payments;
- The expense of rehiring and retraining.

One study estimated the cost of early disability as 165% of an officer's salary⁹.

Each dollar spent on fitness/wellness in the workplace saves several dollars¹⁰. Fit

⁸ Smith (2010)

⁹ Ibid

workers miss fewer days of work; they are less likely to suffer degenerative diseases thereby spending a smaller share of the agency's health care dollars¹¹. Data from a number of civilian workplace studies suggest fit active employees have higher productivity. Finally, fitness and wellness programs increase loyalty, reduce turnover and generally improve morale.

Program Components

As with any agency program, a certain degree of initial planning must be done prior to implementation. Whether a small working group is to be used or a task force from the larger community, certain tasks must be performed. The amount of work depends upon the presence or absence of a current fitness policy, the need for documentation as well as agency resources. The following nine program components are offered as the eventual response; the specific nature and offerings of a Total Fitness and Wellness Program may vary from agency to agency.

A trained and well-oriented leadership at the highest levels is an essential, first element of the agency-based program. This is key to the success of any program. The administration/leadership should have instruction in issues such as legal concerns, budget, and policy and procedures. This training emphasizes that the overall goal of the program is behavior modification, not punishment.

¹⁰ Sharkey (1997). P 296.

¹¹ Ibid, p 296.

Program coordinator is the cornerstone of the agency-based program. The most cost-efficient model is one that capitalizes on internal resources. Smaller agencies or those with limited resources may opt to work together or partner with other agencies or contract outside resources. Coordinator training will develop the knowledge, skills and abilities necessary for effective participant screening, individual and agency program development and implementation, safety, and basic health/fitness education. Training providers in law enforcement and the fitness industry set minimum proficiency levels. These programs are widely available. Finally, the fitness coordinator selected should have good interpersonal, communication and motivation skills not simply good fitness. Personnel should be carefully chosen to ensure success.

Health screening clears the participants for testing or exercise. Virtually every agency that has conducted health screening has identified at least one officer in need of additional referral, often resulting in a life saving intervention for heart disease or diabetes. A few simple questions will determine that most people can safely participate in an exercise program. However, the American College of Sports Medicine does suggest a more thorough pre-participation medical examination if the participant plans to engage in a rigorous exercise program and falls into one of the following categories:

- Previously sedentary
- Concerned about his/her health
- Reporting two or more primary risk factors for heart disease

- Is a male over 40 or a female over 50 not currently participating in an exercise program.

Even if they have no apparent risk factors for heart disease, officers should begin with a six to eight week starter program. Field tests such as a *step test* or *one-mile walk test*¹² provide a good indication if it is safe to begin a more rigorous program.

Finally, additional low cost health screens may include blood pressure, resting heart rate, and whole blood analysis for blood lipids to include triglycerides and cholesterol as well as blood glucose. These tests may be conducted by trained agency staff or outside medical personnel from the community or state. All of the information gathered in the health screening process is completely confidential and must be maintained as such.

A Fitness Assessment is the follow-up to the health screen. The agency fitness coordinator would be trained in valid field tests of the components of physical fitness, which underlie and predict the ability to perform the essential physical functions of law enforcement work. Typical tests would include:

- the 1.5 mile run as a predictor of cardiovascular endurance;
- the 300 meter run to assess anaerobic power;
- pushups and situps to measure muscular endurance;
- the sit and reach to assess the flexibility of the lower back and hamstrings;
- the bench press to measure muscular strength;
- a body composition field test to estimate body fat;

¹² Reference the instructor qualifications in Addendum.

- a test of agility such as the Illinois Agility Run;
- the vertical jump test of explosive leg power.

A written *activity questionnaire* is also a valuable tool to assess fitness. A series of questions concerning current personal, athletic, and professional activity, history, and likes and dislikes, will help in setting goals and prescribing exercise.

Goal setting is a process that establishes a set of outcomes that are measurable, articulable, systematic, and progressive. To be effective, goals must be challenging yet attainable, and based on current levels of fitness. Goal setting is an ongoing process, never static. The program coordinator assesses the current level of fitness of the participant, together they establish short-term goals, train, reassess, and set new goals. The goals may be linked to incentives. While long-term goals may put the process in perspective, short-term goals help shape the next step, planning.

Planning can take many forms including exercise prescription, nutritional and lifestyle planning, or an activity program. All plans and prescriptions are based on current levels of fitness or activity and the previously established goals. By applying the fitness principles of specificity, progression, overload, adaptation, balance, moderation and regularity, the fitness coordinator and participant together will come up with a lifestyle/activity plan and an exercise prescription. Planning, like goal setting, represents an ongoing action rather than a one-time event.

A specific exercise prescription identifies the threshold levels, that is, the minimal workload necessary to produce a training effect in a given individual. These levels are based on current fitness status determined during the fitness assessment. The acronym “**FITT**” is universally used by fitness professionals to express these parameters.

- *Frequency*, the number of times per week the exercise or activity is performed;
- *Intensity*, how hard the exercise or activity is performed;
- *Time*, the duration of the exercise or activity;
- *Type*, the mode of exercise or activity.

Education is a cornerstone of the agency-based Total Fitness and Wellness Program. No matter how much an individual may want to change a lifestyle and develop healthier habits, they can't do so without knowing what the correct behaviors are. Training in each total fitness area is necessary. The department may consider including, where practical, the officers' family or significant other(s) in the training or lifestyle education. Adherence studies consistently state in order for changes in behavior to be permanent, support must come in many forms.

In addition, every action and step along the way is a teaching point. For instance, while program coordinators are not qualified to diagnose others, they may use the health screen as a vehicle to inform and educate participants. Exercise testing, goal setting, and planning represent additional teaching opportunities.

Participants also need more formal ongoing training. Roll call, in-service, and specialized training are viable opportunities throughout the year. Topics for this training should include health and fitness, training methods and principles, safety, nutrition, stress management, goal setting. If the agency has a fitness facility, classes on how to use the equipment would be pertinent. While the fitness coordinator will be able to conduct much of this training, agencies may consider utilizing fitness professionals within the community.

Ongoing support for the program comes from up and down the chain of command. The fitness coordinator provides monitoring and feedback. This allows participants to know how they are progressing and informs the administration about the effectiveness of the program. The coordinator may also be responsible for an incentive program. *Perhaps the most important contribution the administration can make at this point is to look for ways to allow **on-duty training time**. As mission and staffing permit, providing up to three hours per week for fitness training will have a significant impact on participation and adherence.* On-duty training time may occur at any time during the shift or perhaps the first or last half hour of the tour.

Support for the program may also take the form of communication. A simple bulletin board with race or contest information, timely articles or training tips is also an effective educational tool. More comprehensive actions such as a newsletter or other publication, subscriptions to literature or information/training services may be undertaken. Finally and perhaps most importantly, management

can demonstrate support for the program by participating. Leading by example is perhaps the most genuine form of support.

A plan to **phase in** the program is the final element of the Total Fitness and Wellness Program. Most agencies will choose to begin the program in the academy, since fitness is typically already inculcated at that level. Others may start with an incumbent in-service program. Eventually, in order to be successful, the program must include all personnel, perhaps even the civilians.

Conclusion

The Total Fitness and Wellness Program emphasizes programming for all departments and personnel. Agency leadership must understand that a fitness program is about changing behaviors. It will require time, planning and resources. Well thought out policies provide support and authority. Well- defined procedures ensure accountability. Most importantly, the leadership can support the program by practicing fitness themselves, thereby giving credibility to the program.

Addendum

Training for health and fitness coordinators is commonly available through a number of private and public entities. Many state POST's offer this training as well as the U.S. Army's Master Fitness Instructor training. Private vendors such as the Cooper Institute in Dallas, Texas, the FBI, Northwestern, and FitForce™ are also available. Non-profit organizations such as the American College of Sports Medicine and the National Strength and Conditioning Association represent further resources. In most instances the training is conducted in 3-5 days and should include at minimum:

- The basic theory of health, fitness and wellness for the general population and law enforcement specifically. This may include sections on anatomy, physiology, and kinesiology.
- A brief review of the legal concerns inherent in the environment.
- Theoretical and practical experience in health and fitness screening, profiling and goal setting.
- Individual or case study experience in exercise prescription.
- An overview of program development, design and implementation – preferably on an individual and agency basis.

Discussion or practical exercises in lifestyle behaviors and training as well as a review of the resources/agencies available should comprise the primary approach to training. These areas should include at minimum: activity/exercise, nutrition and weight management, stress management and an introduction to employee assistance programs.

Bibliography

Blair et. al. (1989). *Physical fitness and all cause mortality: A prospective study of healthy men and women*. J. of the American Medical Association, 262, 2395 – 2401.

Sharkey, Brian J. (1997). *Fitness and Health, 4th Ed.*. Champaign, IL: Human Kinetics.

Smith, J. E. Jr. (2010). *FitForce Coordinator Guide, 2nd Ed.* Monterey, CA: Coaches Choice, Inc. (in press)

Wollack and Associates (1992). *Multijurisdictional law enforcement physical skills survey*. Sacramento, CA: Wollack & Associates.