PHYSICAL FITNESS AS A FACTOR IN PERFORMANCE ON THE JOB IN LAW ENFORCEMENT

AN EXECUTIVE SUMMARY

Prepared for

THE CALIFORNIA COMMAND COLLEGE

by

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INTRODUCTION

The purpose of this project is to examine physical fitness and total wellness from the management perspective, as job performance factors.

Evaluation of the considerable body of contemporary literature, existing programs and emerging technology leads the researcher to the conclusion that carefully constructed and well monitored programs will offer increasing opportunity during the next two decades for law enforcement managers. The result should be improved job performance with reasonable investment of effort and funds.

Studies in the private sector were found to report significant return for time and funds spent on fitness programs. Contemporary law enforcement programs offer enough generally positive results to allow compilation of a set of guidelines to assist managers in making the decision to embark on a fitness program, implement and then monitor it to promote the likelihood of success.

The scope of this study does not allow an attempt to evaluate any of the several current long-range studies relative to possibly improved ability to perform

specific tasks which make up the total job of the police officer. Rather it deals with the means of increasing the probability of preserving the value of any law enforcement agency's principal asset: its operating personnel.

For the reader's convenience the project is organized into three sections, as follows.

SECTION I - MAKING THE DECISION

This section examines the benefits, costs and tradeoffs in fitness programs. Also included are possible consequences of action or non-action. Studies showing program effects on such factors as use of sicktime, medical claims, medical retirements, individual competence, ability to recruit new personnel and vulnerability to vicarious liability are discussed.

SECTION II - DEVELOPMENT AND IMPLEMENTATION OF A PROGRAM

Once the decision has been made to go ahead it is critical that key details be planned for and implemented if the program is to have a chance for success. In this section these details are examined

in terms of management theory and as they were implemented in the program of the Downey, California, Police Department.

Considerations include identification of stake-holders and the critical mass; desirability of voluntary and mandatory participation; overcoming inherent fears among the target population; the theory and framework developed in the Downey program; tests performed in medical screening and assessment; use of outside medical personnel for pre- and ongoing evaluation and advice; cardiopulmonary testing procedures; strength and flexibility measurement; body composition analysis; the physician's general examination; goal setting and prescription issuance; and monitoring the program and maintaining motivation.

SECTION III - A SCENARIO: FITNESS IN THE FUTURE

This section deals with trends and discoveries that may impact the future of fitness programs in law enforcement. It examines ways that future developments may alter the need for or desirability of having such programs and the ways in which they may be structured differently from those of today.

This Command College Independent Study Project is a **FUTURES** study on a particular emerging issue in law enforcement. Its purpose is **NOT** to predict the future, but rather to project a number of possible scenarios for strategic planning consideration.

Studying the future differs from studying the past because the future has not yet happened. In this project, useful alternatives have been formulated systematically so that the planner can respond to a range of possible future environments.

Managing the future means influencing the future -- creating it, constraining it, adapting to it. **A futures study points the way.**

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Submitted in Partial Completion

of the Requirements

for the

CALIFORNIA COMMAND COLLEGE

CLASS I

by

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SECTION I

MAKING THE DECISION

Historical Perspective

One of the most important responsibilities of any law enforcement administrator is ensuring functional readiness of operational personnel to perform their duties.

In California we have historically provided for only part of this readiness. We have provided intellectual conditioning for our personnel in every technical aspect of the job from law to childbirthing. Physical conditioning, however, virtually ceases to exist in most agencies past the academy training provided new recruits.

Principally since the beginning of this decade there has been a belated realization by law enforcement management of the necessity for maintaining the fitness of the human machinery that transports the intellect and various types of programs have been tried. The validity of many of these programs, both from job-related and legal viewpoints, is subject to debate.

Fitness Programs in the Private Sector

Recognition of the problem has existed for a much longer period in the private sector. Some consultant organizations, long active in industry, are now lending

their concentrated efforts to the development of similar programs in law enforcement.

The Cooper Institute for Aerobics Research, in Dallas, is one such organization. It is extensively involved in basic research and development of programs for officer fitness as well as the relationship of such programs to general health, disabilities and job performance.

Cooper Institute's experience leads them to the conclusion that full understanding of the value of fitness and program implementation requires viewing both in a broader context than just the law enforcement application.

This is due in part to law enforcement's traditional conservatism which historically has placed it somewhat behind the developmental state of general society. In support of this position Cooper offers as demonstration of general society's recognition of the value of fitness the following facts:

An estimated seven billion dollars spent yearly in the private sector on employee fitness programs

U.S. Public Health Service Goals for the year 1990 that include fitness testing as a part of all routine medical and health examinations; and that 25 per cent of all organizations with over 100 employees will have some sort of fitness/wellness program

The emerging existence of reduced health and life insurance premiums for persons maintaining specified levels of fitness

Increasing numbers of no-smoking hiring policies

Demonstrated relationships between fitness and reduced absenteeism and health care claims as well as increased productivity

Recognition of fitness as an economic issue

The increase, during the 1968-1978 perod, in the number of joggers from 100,000 to over 3,000,000

Further evidence of the general population's acceptance of fitness as a valid issue may be seen in the well documented decline of smoking. In industry and

increasingly in the public sector, smoking is recognized as a factor of employee performance. To a lesser extent it is coming under scrutiny in terms of social acceptability. It is estimated that if present trends continue, only 15 per cent of the population will smoke by the end of the century--and these may well be considered social outcasts.

A Newer, More Practical Definition of Fitness

As general society and law enforcement acceptance of fitness grows, so does a consensus on the meaning of the term. Unfortunately, in terms of accelerated acceptance by law enforcement, this definition is not that to which we have become accustomed over the years.

Historically, law enforcement has viewed fitness as meaning adequate physical strength to handle the most demanding part of the job: physical altercation. Officers who met this somewhat fuzzy criterion were often also overweight and in poor cardiovascular health.

This combination of conditions, and the adrenaline flow during physical altercations, led to the well-known "occupational hazard" that, for police personnel, heart attacks are presumed to be job related.

Even legislative recognition of these relationships for worker's compensation cases did not immediately lead to acceptance of the need for fitness as we view it today. The vision of the "fit" police officer continued to include a large frame and bulky muscles so efforts at improving fitness continued to be largely limited to lifting weights and participation in team sports that placed a premium on strength. Almost no thought was given to cardiovascular condition or lifestyle changes that might improve physical tone or relieve stress.

Recently, however, it has finally come to be realized in law enforcement, as well as general society that true physical fitness is a measure of physical health status--not ability to perform a specific motor related task.

A more useful, if somewhat lengthy, definition again may be borrowed from the Cooper Institute. It involves satisfactory performance in the areas of:

1. aerobic capacity (ability of the body to transport oxygen)

2. flexibility (ability to move with range of motion)

3. dynamic strength (ability to create force by application of muscle) and endurance (ability to retain adequate strength over protracted periods of application)

4. body composition (percentage of total body weight represented by fat)

These four areas are virtually universally accepted by doctors, physiologists and educators as being valid indicators of one's functional capacity, or health status. While these areas are measured by specific tests or performance of specific tasks, they are even more importantly predictive of the ability to perform well in the general sense of physical activity.

Changing Values in Law Enforcement

In 1977 the International Association of Chiefs of Police conducted a study in conjunction with the Cooper Institute. The study evaluated the status of fitness programs in various police agencies. There has been no repeat of the study, as such, for valid scientific comparison, but the experiences of the Cooper Institute since that time (in training over 1,000 police officers selected by their agencies to be instructors in local

fitness programs) allows one to draw some useful comparisons.

1984 input from Cooper indicates the following changes in the indicated areas of concern.

	LAW ENFORCEMENT'S POSITION	
AREA OF CONCERN	1977	1984
Fitness Level	Equal to or less than general population	Nearing parity with general population
Fitness Programs	Very few, mostly in academies with no follow up	Estimated four-fold increase: more inservice
Fitness Emphasis	Mostly physical task performance - standard	Functional or health related fitness programs
Legal Concerns	Discrimination	Negligence

The Liability Issue

While the title of this section indicates that there is a decision to be made on whether to have a

program on fitness, in practical fact that option may be disappearing because of current legal trends.

The trend to vicarious liability decisions against governmental agencies found to be negligent in their selection, training, supervision and/or retention of officers is amply documented in the journals of law enforcement. Health issues are now taking their place in this grim arena. Agencies may now be held liable for failing to provide for an officer's health if he or she proves unable to function adequately in emergency situations or becomes injured because of inadequate fitness.

Cost Benefits

The real issue of physical fitness programs for law enforcement personnel is much larger than the risk of liability. The value of having a fit, healthy workforce is obvious to any management person. Thus, the emphasis in all considerations related to a fitness program must be on helping officers improve their health status and the mutual benefits to be derived from the effort.

In researching existing studies on the subject it soon becomes apparent that too much has been written to allow individual recognition of every worthy project.

Certain commonalities, however, are consistent and dramatic enough to be cited.

In the Journal of Occupational Medicine, November 26, 1984, for example, a study of participants in an industrial physical fitness program over five years revealed a reduction of 20.1 per cent in the average number of disability days and a 31.7 per cent reduction in direct disability dollar costs in the first year following startup of the program. The average combined saving per participant was $353.38; the average operational cost of the program was $120.60 per participant.

The article concluded that the results of the study suggested that work-site wellness programs can make a substantial contribution to the reduction of health care and disability costs.

Examples of research programs leading to cost savings abound. For example, an article from the Harvard Business Review, Vol. 63, March-April, 1985 concludes that "Employees who are physically fit are usually the most efficient. In addition, they have lower absentee records and fewer claims on company insurance."

A growing body of opinion in industry holds that fitness/wellness may currently be the single most significant factor in reducing costs. General Motors has found that $800.50 of the cost of producing each car is accounted for by employee health maintenance--an amount second only to direct salaries.

Non-financial Benefits

Dollar values of benefits from fitness are not necessarily immediately recognizable in the results found in industrial programs. As an article in the Annual of Clinical Research found, in 1982, "...the most beneficial effect of exercise may be a biochemical mediated feeling of well being." The effects of such a condition on morale are obvious even if no dollar value is directly attached. It is not too difficult, however, to relate an improvement in morale to cost benefits and such benefits are no less valuable in the public sector than the private.

A growing concern in law enforcement is the problem of recruitment. There are many reasons contributing to this emerging condition. Among them is the negative impact of the hours and the stress of the job. A model fitness program, properly administered, can do much to counter this negative aspect of the job and improve our recruiting posture.

Budgetary Considerations

While the benefits of a fitness program may be readily appreciated, it is sometimes a little difficult to make the tradeoffs between the desire for these and the costs of obtaining them. Budgets and fully comparable programs to match individual agency desires are hard to come by.

Two cost areas must be provided for in any program. These are pre-participation medical screening and, if anything more sophisticated than a pure running program is selected as the medium, a certain amount of equipment.

Most agencies already have some routine set up for periodical physical examination of sworn employees. Some hospitals are now providing rehabilitative and preventive programs of their own. Either of these arrangements may offer examinations which will be adequate for screening purposes.

The cost of pre-participation screening may thus be already provided for in the existing budget. If not, the unavoidable costs are difficult to estimate in this paper because of the wide variation in local medical costs. For reference, however, in suburban Los Angeles it is possible in 1985 to get an adequate examination

through the fitness center of a local hospital, for from $300 to $350.

In Downey, California, which is part of the above geographical area, Chief William F. Martin worked with the local community hospital to set up a screening and fitness center within the operational framework of their rehabilitative program. This center now provides complete counseling and fully comprehensive physical examination that is adequate for any fully integrated fitness program.

Costs for equipment range from virtually zero, for programs based mainly on running, to many thousands of dollars for fully integrated programs where facilities and equipment don't currently exist. Programs in this latter category also include many options that will vary costs and may range from simple universal-type weight machines to those requiring treadmills, free weights, whirlpool baths and specialized exercise equipment such as cycling and rowing machines.

A final consideration in reference to equipment is that it needs to match the program. More specifically, if the standards are set for performance of specific feats, the equipment selected needs to be able to

measure performance in those terms. Thus, the decisions made on performance standards may affect costs and should be made before or concurrently with budgetary considerations.

Another possible alternative to be evaluated in considering a fully integrated program is making an arrangement with a local exercise salon to provide memberships (often at a group discount) for personnel. There are problems in such an arrangement, however. The principal one is that few commercial operations are available for officer use at the often unusual hours of their demand. Second is the fact that police personnel sometimes are reluctant to mix with their clientele under the conditions normally found in operations of this type.

With all the local and option-related variation inherent in design of a program it is obviously difficult to provide universally applicable estimates of costs for consideration when evaluating the desirability of adopting a program.

Some generalization is possible, however. First it may be said with confidence that an effective program can be designed and put in place for relatively little money (witness the running program mentioned above),

considering the magnitude of the benefits to be obtained.

A second generalization that is useful in making this determination is that the well-established willingness of one law enforcement agency to help another can be put to good use in this area.

Not only are agencies with programs in place willing to share their processes and results, but there are projects of considerable size and import currently underway that can provide important guidance to agencies considering involvement in fitness/wellness efforts. At the time of this writing two of the most significant works under way for general law enforcement are being conducted by the Secret Service and the Federal Law Enforcement Center at Glyncoe, Georgia. The California Corrections Department also has a major study of particular value to jail personnel.

SECTION II

DEVELOPING AND IMPLEMENTING A PROGRAM

Once the decision has been made to provide the agency with a fitness/wellness program a myriad of details need to be attended to before the program can be put in place.

In this section we will discuss these details in terms of both management theory and the experience gained during the development and implementation of the fitness program in the Downey, California, Police Department.

Development of the Downey program began with identification of the stakeholders and critical mass in the program. It was also necessary to overcome some human fears of the unknown and decide on the basic format of the program in terms of participation and sanctions.

Identification of Stakeholders and Critical Mass

Any examination of details of implementation must be made within a frame of reference that is drawn after identification and consideration of the stakeholders in the program and the critical mass of the organization.

For a program of this type the stakeholders will almost surely include at least (in addition to the participants themselves and the agency):

1. the public served
2. local exercise salons and gyms
3. equipment suppliers
4. local medical community
5. families of employees

The needs and concerns of each of these groups has to be analyzed and the appropriate effort made to either accommodate their needs or overcome their objections or fears.

Next the critical mass must be identified in the organization. Here many factors must be considered. Everyone must have someone "in the know" to whom they can express their concerns with comfort and confidence.

The mass must contain a widely diverse group of individuals who are open to, or can be approached by, all factions in the organization. Additional consideration must be given to the impact of such factors as differing days off, special assignments and working hours.

All of these factors impair communications, making identification of the mass at once more difficult and more critically important. Among other things, the mass

must contain the movers and shakers for motivation during and after implementation.

In a medium-sized agency the critical mass will typically include:

1. Chief of Police
2. the president and/or ranking officers from the association (union)
3. officers of both sexes from all operating divisions and details
4. representatives of supervision and middle management
5. other fitness-oriented individuals who are respected by the group

These are merely examples of the types of considerations that take place in identifying the critical mass in a department like Downey. Each administrator will, of course, have to analyze the organization as it exists in his or her agency and identify those individuals who can insure that an environment is created that will allow everyone in the target group to identify with someone in the core of the program from the very beginning.

Unless the mass is selected carefully enough it will lack the necessary breadth to avoid creating a feeling of being an elite corps. This is essential to promote voluntary participation and individual motivation.

Once the internal organization is set up the administrator should get outside medical assistance to ensure that the program will be recognized as safe and technically sound. In Downey we used the widely known staff at Cooper and the locally-respected medical staff at Downey Community Hospital to help establish the credibility of our program.

Mandatory vs. Voluntary Participation

One of the early options that must be settled is the issue of whether the program should be based on mandatory or voluntary participation. Every discussion of fitness programs is certain to spend considerable time on this issue and it is indeed an important one. An entire paper, in fact, could very easily be written on this subject alone if all the philosophical and psychological aspects were thoroughly investigated and debated.

In the Downey program it was decided that in the final sense there was really no option. The only

practical approach was felt to be that it was not feasible to mandate that someone do something which could not be achieved without their considerable personal, willing dedication. So a voluntary program was chosen, enhanced with provision of universally desirable rewards for success.

In actuality there are both mandatory and voluntary aspects of the Downey program. All sworn personnel are required to take a physical examination every three years. This is now administered by Lifestyle Plus, a unit set up in Downey Community Hospital in cooperation with the Police Department but now used by many segments of the community for evaluative and consultive service.

Overcoming Inherent Fears

The results of the comprehensive examination are mailed directly to the subject. The only notification made to the agency is that which goes to the Chief if an individual is advised by medical staff to see a private physician for a special problem.

This approach has overcome fears expressed by some, when the program was being considered, that negative sanctions up to and including termination for unfitness might result. It is also consistent with Chief Martin s

philosophy that a fitness/wellness program must be a "win-win" situation where both parties gain and neither loses.

After the physical, each individual is offered the chance to participate in the program on a voluntary basis. No sanctions are imposed for choosing not to participate.

Framework of the Downey Program

All the details to be provided for fall into one or more of these four general areas of concern and should be examined in the context of their contribution to each:

1. safety of the participants
2. budgetary acceptability
3. employee acceptance
4. improvement in the level of fitness of the overall organization

Against this grid of concern a three-step process took form for the Downey program. In order of performance these steps are:

1. medical screening/assessment of potential participants

2. goal setting and issuance of prescriptions for exercise and nutrition
3. monitoring and motivation

Medical Screening and Assessment Details

The first segment of the medical screening is a **laboratory workup.** The following tests were decided upon in consultation with the hospital staff:

urinalysis - to detect kidney or bladder disease, diabetes and any other diseases

occult blood - to detect internal bleeding from ulcer or other internal disorder

complete chemistry panel, including:

serum lipids, indicative of high risk of heart disease

complete blood count (CBC) to detect any infection and measure hemoglobin, the oxygen carrying device for the body

sodium, potassium, chloride and CO2 levels - the basic electrolytes, checked for proper balance

blood urea-nitrogen (BUN), given with the Creatinine Level to detect kidney disease

glucose, to detect diabetes

electrolytes, for heart and other organ functions

alkaline phosphate, to aid in the diagnosis of gall bladder or liver disease

uric acid, to diagnose kidney disease or gout

total bilirubin, to determine the level of the chemical produced by the liver and processed through the gall bladder (also Direct Bilirubin, if indicated)

enzymes - analysis of substances found in the heart and liver to detect possible organ damage and assess level of function

cardiac lipids - to detect abnormality in heart function (has a high correlation with risk of heart attack)

total cholesterol - evaluative of likelihood of heart attack and cardiovascular disease

high and low density lipoproteins - another indicator of cardiac risk

triglycerides - also indicative of cardiac risk

T-4 (thyroxin hormone) Panel - to determine proper thyroid function and metabolic rate

Cardiovascular and pulmonary testing, primarily to assess initial aerobic fitness, rather than look for disease, is an integral part of the Downey program. This testing establishes the base used in setting goals and from which any progress toward these goals will be measured.

This phase of the screening consists of determining:

resting heart rate (sitting)

resting blood pressure (sitting)

12-lead electrocardiogram (for baseline)

submaximal electrocardiogram

maximal stress test (treadmill)

- stress electrocardiogram (Bruce Protocol)
- oxygen uptake (VO2 max)

blood pressure at maximal stress

pulmonary function (spirometry)

- vital capacity
- forced expiratory volume for one second (FEV1)

Strength and flexibility are tested to establish baseline data on range of motion and muscle capability. These are measured by the following tests, observed by physical therapists:

sit-and-reach

bench press

leg press

situps per minute

Body composition testing attempts to determine the relative amounts of fat and lean body mass (bone, muscle, vital organs and fluid) in the subject's body. This test provides baseline data that is used during the

program to evaluate loss of fat, rather than weight. It is possible for a person to lose fat and still gain weight, a condition that could be interpreted negatively rather than positively (which it should be in terms of fitness).

The most accurate method of determining composition is the hydrostatic weighing, in which the individual is weighed first in air and then while submerged in a tank of water. Another method, which takes considerably less equipment, is measurement of skin folds at specified locations on the body. This test, while somewhat less accurate, is handy for ongoing testing during the program when hydrostatic facilities are not readily available.

A third method, electrical impedance, is relatively new and is yet to be evaluated in relation to the other more established methods for determining body composition.

The **physician's general examination** includes a series of observations and measured examinations of various bodily functions and areas:

heart

lungs

abdomen

external genitalia

rectum/prostate (males)

breast/pelvic (females)

inguinal region, for hernia

visual acuity and color discrimination

glaucoma/tonometry

audiometry (125-8,000 Hz)

nasal obstruction

otological (ear)

chest x-ray

The above comprehensive medical examination is supplemented by a extensive **medical background questionnaire**, a copy of which is included in Appendix "B."

Goal Setting and Prescriptions

The goal setting process begins with comparison of the baseline data obtained in the screening/assessment step and the realistic assessment of practical ultimate levels for the particular participant.

A 50-year old officer may not aspire to the same ultimate strength or flexibility level of performance

that would be desirable for a 22-year old. Aerobic levels, however, might be close or the same for each, depending on the degree of deterioration that had taken place in the older officer before joining the program.

As may be seen in the fitness standards included in Appendix "A," different standards are set for various combinations of age and sex to allow for normally differing expectations.

Goals are set against a time line so that increasing degrees of progress are planned for at three-month intervals.

Prescriptions for exercises to achieve these goals are set in conference jointly by the participant and his or her Fitness Leader. Taken into consideration are both the physiological requirements for reaching goals and the interests or preferences of the participant.

Thus, one participant may elect to use bicycling for aerobic development while another may opt for running or swimming. Somewhat less latitude exists in other areas of development such as flexibility, where only stretching exercises will produce the desired result. Similarly, strength is developed only through

some sort of resistance training and options are more limited than for aerobic development. But, in all cases, as much latitude as possible is allowed to accommodate individual preferences.

In nutrition prescriptions, consideration is given to a person's normal eating habits and guidance is provided toward reducing levels of fat consumption increasing levels of complex carbohydrate intake. Patterns of eating and habits are discussed with participants and family. Literature is provided for reference and general education.

Monitoring and Motivation

Historically, fitness programs experience a 75 per cent drop out rate during the first six months. This seems to indicate strongly that selling the program initially is not as important as what takes place after the sale is made. If the program delivers to expectations, and continues to deliver, the interest of participants will not fall off.

In the Downey program rewards for successful achievement of established goals range up to two weeks' additional paid vacation a year. Motivational items such as t-shirts and workout clothes are made available to participants at their own expense.

Standards of performance selected for use in Downey are those established by the Cooper Aerobic Center and are shown in Appendix "A." Performance at the level designated as excellent is rewarded with two additional weeks' vacation; one additional week is awarded for performance designated as good. At the discretion of the fitness leader motivational items may be awarded for significant improvement or effort.

As attractive as these rewards and motivational items are, however, there is an even more important maintenance factor. Once the individual decides to come into the Downey program, he or she is assigned to one of ten Fitness Leaders, selected and trained from within the sworn ranks of the department. The fitness leader becomes responsible for all follow up, including motivation of the participant, and becomes in fact an extension of the critical mass.

Once each month the Chief and the Fitness Leaders meet to discuss progress, make suggestions and assign tasks. Not only does this give practical demonstration of the continuing support for the program at the top administrative level but it gives the Fitness Leaders an opportunity to contribute improvements to the program and enhance motivation.

Examples of suggestions that have come from these meetings include:

posting of fitness standards for easy reference by participants

quarterly posting of days off earned to give recognition to successful participants and motivate non-participants to become involved

weekly fitness bulletins, posted in the employee lounge, containing dietary and exercise tips and study summaries

fitness magazines in lounges to stimulate interest among non-participants and keep participants informed of developments

audio and video fitness tapes for use in workout areas

organization of running and cycling clubs with awards for varying levels of achievement

competitive sporting events such as flag football, volleyball and softball

periodic update of Fitness Leaders' skills

through training seminars

Even a casual observation of trends in lifestyles over the past two decades must indicate a strong growth in interest in improved fitness. While it is still considerably early to project when the ultimate motivational state will be reached--that is, when all citizens will become self-motivated to achieve the personal and professional benefits of fitness--the early results of the Downey program are highly encouraging.

From a condition where only a few of the youngest and most fit officers took any interest in fitness, Downey has progressed to the point where even the Chief and Captains nearing retirement are active in the program. Even more importantly, a steadily incresing percentage of the total department is participating.

While there are no quantified objective criteria set for measurement of progress toward the ultimate goal of the program to "raise the overall fitness level of the organization," the results up to this time clearly indicate progress. Within the next year it is hoped for and anticipated that studies will show improvement in the desired organizational cost areas such as sick time utilization, medical retirements and injuries.

SECTION III

A SCENARIO: FITNESS IN THE FUTURE

PROLOG

The setting of this scenario is the Downey Police Department, a medium-sized agency located in the greater metropolitan area of Los Angeles.

The year is 1996, about ten years after police officer fitness became a major management issue. The narrator is Robert "Bob" Williams, recently retired Chief of Police, who is speaking to a conference of the International Association of Chiefs of Police.

Chief Williams speaks:

"I can remember when most police administrators felt it was an unrealistic and bold move back in 1986 when we made officer fitness a major priority and required "fitness contracts" for newly hired officers.

In those days the Police Officers' Association was pretty conservative on the issue and to avoid problems we only had incoming officers sign the contracts. They required no smoking and maintenance of minimum fitness levels. They also required quarterly testing on fitness.

Through attrition we've now reached the point where 85% of our officers are under these contracts and none of the rest smoke--and they're all in our fitness program.

It's hard to look back on those early days now and understand what all the concern was about. That fitness trend that started in the 70s is now an everyday part of life, like the discounts we get on health insurance, life insurance and even automobile insurance if we can demonstrate fitness.

I guess the insurance companies feel less cautious because the actuarial database has the experience of over 150 million people from all over the world. It's interesting that this grew from the main database maintained in Dallas by Dr. Cooper's Aerobics Institute Research System--and they're the ones who helped us set up our first program.

From that humble but dedicated program we've seen the fitness issue grow to the point where now it's international and the main thrust is carried by the World Health Organization.

In law enforcement the statistical work is being refined by the APPLE program--Aerobic Performance

Planning for Law Enforcement. (Everything's got to have an acronym these days.)

Even our education system has been restructured to a certain extent by recognition of the importance of fitness. These new FAT tests for determining students' Fitness Aptitude are nothing more than a wellness equivalent of the old SAT tests we've used for years to estimate college potential.

Fitness training, as you know, begins in the preschool years. I think this may have started with old John Naisbitt in 1983 when he said, in his book Megatrends, 'The decline in literacy is scandalous. For the first time in American history the generation moving into adulthood is less skilled than its parents.'

While he was talking about general education and not health, he pushed along the development of total wellness at the same time because people had their levels of consciousness raised on all fitness issues. For that matter, the improvement in overal national fitness also contributed to the development of greater intellectual achievment, in my opinion.

The fact that the government has provided tax incentives for fitness by both individuals and

businesses has helped make wellness a practical part of daily living. It's now certainly the rule rather than the exception.

Back in the 80s POST recognized that fitness was holistic in nature and included the then relatively remote issues of psychological, family and financial counseling. Now it's pretty universally regarded that way. All POST courses, from the basic academy right on through the Command College now reflect this and make some provision for maintenance of fitness.

Everyone knows, or at least hopes, that our rapidly developing technology is about to conquer some serious health problems. The research in growth hormones, for example. Soon that will probably make obesity a thing of the past. And laser technology. That will soon do away with arterial blockage.

But the real progress, in my opinion, has been the growth of fitness and wellness efforts made at the personal level. The national life expectancy has risen to eighty-five and we can get organ transplants or mechanical replacements almost as easily as we replace fuel pumps on our automobiles.

Replacement, however, is not the best answer. The best answer is taking care of what we were blessed with and making it work as well and as long as possible."

EPILOG

The above scenario helps look at a possible future by expanding present trends and directions. It links physical fitness with emotional well-being and job performance.

At the Aerobic Center in Dallas, Dr. Poteet envisions that in the next ten years we will see the rapid distribution fitness information through all means of communication. He feels that this will be generated by economic considerations as business and industry conviction grows that fitness reduces costs and increases profit.

Because of the constantly increasing drain on funds through medically related expenses the issue will be no less important in the public sector. In fact, with increasing limitations on spending levels brought on by the "taxpayer revolt" the efficient utilization of personnel resources may ultimately become even more critical in government than in business.

If it does, near future may well hold mandated fitness programs of all levels of public safety personnel. The concept of "be fit or be fired" may be forced on government by the economics of the times.

APPENDIX A

% BODY FAT

MALES

	30	30-39	40-49	50-59	60
Excellent	2.2-9.7	4.5-13.4	6.1-15.6	8.1-17.6	6.5-17.2
Good	9.8-14.0	13.5-17.0	15.7-19.1	17.7-21.1	17.3-21.2
Fair	14.1-17.5	17.1-20.0	19.2-22.1	21.2-23.9	21.3-24.6
Poor	17.6-22.0	20.1-23.7	22.2-25.8	24.0-27.3	24.7-28.4
Very poor	22.1-38.9	23.8-36.4	25.9-38.1	27.4-38.2	28.5-40.2

FEMALES

	30	30-39	40-49	50-59	60
Excellent	4.2-14.8	4.1-16.7	7.4-20.1	9.9-23.3	6.2-24.6
Good	14.9-18.9	16.8-20.6	20.2-24.1	23.4-27.4	24.7-29.0
Fair	19.0-22.8	20.7-24.0	24.2-27.2	27.5-30.9	29.1-31.2
Poor	22.9-27.1	24.1-28.6	27.3-31.4	31.0-35.0	31.3-36.2
Very poor	27.2-42.6	28.7-42.3	31.5-42.5	35.1-45.3	36.3-45.9

WOMEN

Fitness Category Percentile	Total Sit-Ups Per Minute			
Decade (Years)	20-29	30-39	40-49	50-59
Excellent	52+	42+	38+	37+
Good	41-51	33-41	27-37	26-36
Fair	30-40	24-32	15-26	14-25
Poor	19-29	14-23	6-14	5-13
Very Poor	8-18	5-13	1-5	0-4

MEN

Fitness Category Percentile	Total Sit-Ups Per Minute				
Decade (Years)	20-29	30-39	40-49	50-59	60-69
Excellent	51+	49+	47+	44+	44+
Good	42-50	40-48	37-46	32-43	32-43
Fair	32-41	31-49	26-36	20-31	18-31
Poor	25-33	22-30	15-25	7-19	4-17
Very Poor	17-24	13-21	5-14	0-6	0-3

BENCH PR[illegible] - Females

Body Weight (lbs)	100	100-124	125-149	150-174	175+
Fitness Category		Pounds Pressed			
Very Poor	41	35	43	33	45
Poor	41-59	35-57	43-64	33-53	45-66
Fair	60-78	58-80	65-85	54-72	67-86
Good	79-96	81-102	86-107	73-92	87-106
Excellent	97+	103+	106+	93+	107+

BENCH PRESS - MALES

Body Weight (lbs)	100	100-124	125-149	150-174	175+
		Pounds Pressed			
Very Poor	65	31	77	74	84
Poor	65-96	31-92	77-117	74-123	84-137
Fair	97-127	93-153	118-157	124-172	138-190
Good	128-158	154-215	158-197	173-221	191-243
Excellent	159+	216+	198+	222+	244+

LEG PRESS FEMALES

Body Weight (lbs)	100	100-124	125-149	150-174	175+	
Fitness Category	Pounds Pressed					
Very Poor	55	91	103	104	110	
Poor	55-117	91-129	103-146	104-151	110-163	
Fair	118-180	130-167	147-188	152-198	164-217	
Good	181-242	168-205	189-231	199-245	218-271	
Excellent	243+	206+	232+	246+	272+	

LEG PRESS - MALES

Body Weight (lbs)	100	100-124	125-149	150-174	175+	
Fitness Category	Pounds Pressed					
Very Poor	105	132	153	183	208	
Poor	105-178	132-180	153-212	183-240	208-283	
Fair	179-252	181-228	213-270	241-298	284-359	
Good	253-325	229-276	271-329	299-356	360-435	
Excellent	326+	277+	330+	357+	436+	

MEN'S SIT AND REACH CLASSIFICATION

Fitness Category	AGE					
	20	20-29	30-39	40-49	50-59	60+
Excellent	25.7+	24.1+	23+	22.3+	21.5+	21.1+
Good	20.6-25.6	19.6-24	19.3-22.9	17.5-22.2	16.5-21.4	16.0-21.0
Fair	15.6-20.5	15.1-19.5	14.8-19.2	12.8-17.4	10.6-16.4	10.9-15.9
Poor	10.5-15.5	10-6-15	9.1-14.7	8.1-12.7	6.9-10.5	5.9-10.8
Very Poor	10.4	14.9	9	8.0	6.8	5.8

WOMEN'S SIT AND REACH CLASSIFICATION

Fitness Category	AGE					
	29	20-29	30-39	40-49	50-59	60+
Excellent	26+	25.5+	24.9+	24,5+	23.7+	21.0+
Good	22.6-25.9	21.6-25.4	20.8-24.8	20.0-24.4	19.6-23.6	18.0-20.0
Fair	19.3-22.5	18.5-21.5	16.5-20.7	16.5-19.9	15.6-19.5	16.0-17.0
Poor	15.9-19.2	15.6-18.4	12.6-16.6	10.9-16.6	11.5-15.5	12.0-15.0
Very Poor	15.8	15.5	12.5	10.8	11.4	11.0

APPENDIX B

DOWNEY COMMUNITY HOSPITAL

11500 BROOKSHIRE AVE., DOWNEY, CALIF. 90241 / PHONE 869-3061

H.L.T.H.

Preparing For Your Comprehensive Medical/Physical Examination

PLEASE FOLLOW THESE INSTRUCTIONS FULLY TO INSURE THE SMOOTH COMPLETION OF YOUR EXAMINATION.

A. Patient Information Survey

Please complete each page of every form supplied to you in advance including the Jenkins Activity Survey(if included).

B. Previous Medical Records

If possible, please bring a copy of any previous medical records as well as records regarding any previously identified medical problem. This will facilitate the physician's review of your medical history.

C. Food and Alcohol Restrictions

1. Fast (no food or fluids other than water) 12 hours prior to examination
2. No alcohol 24 hours prior to examination
3. No tobacco 4 hours prior to examination
4. Take prescribed medication as usual

D. Clothing/Personal Hygiene

1. Bring exercise shorts, tennis shoes and socks. Women should bring halter top or two piece swim suit.
2. Bring swim suit for underwater weighing and be prepared to be completely submerged in water
3. Locker and dressing facilities, towels and hair dryer are provided
4. Please bathe or shower as close before your appointment as possible

E. Diabetic Patients

Diabetic patients should continue their normal insulin and dietary programs and should not fast prior to coming for examination.

If the patient is used to either increasing his food intake or decreasing his insulin in anticipation of exercise, it must be remembered that the patient will be participating in a maximal treadmill stress test. An average stress test takes approximately 12-15 minutes, and the individual is expected to work at a very high work level.

When the patient is consulted regarding his blood chemistries, the fact that there is no fasting is taken into consideration.

DOWNEY COMMUNITY HOSPITAL
11500 BROOKSHIRE AVENUE, DOWNEY, CALIFORNIA 90241
PHONE (213) 869-3061

PATIENT INFORMATION SURVEY
(please print)

I. GENERAL INFORMATION

Name:_____ Birthdate:___/___/___ Age:___

Address:_____ City:_____

State:_____ Zip Code:_____ Home Phone: (____)_____

S.S. No._____ Spouse Name:_____

Marital Status: Never Married ____ Married ____ Widowed ____ Separated ____

Divorced ____ Remarried ____

Employer:_____ Position:_____

Employer Address:_____ City:_____

State:_____ Zip Code:_____ Bus. Phone: (____)_____ Yrs.___

If you would like a copy of this report sent to your personal physician(s), write the name, address, specialty (if any), in the space below. If not, leave it blank

1._____ _____ _____ _____
name specialty address phone

2._____ _____ _____ _____
name specialty address phone

If you named a physician(s), sign here:_____

Education: Highest degree attained:_____

High School ____ 2 yr. College ____ 4 yr. College ____

Post Graduate ____ Other _____

Racial/Ethnic Background (Select any or all that apply)

____Latino/Spanish American ____Black/Afro American

____Oriental/Asian American ____White/Caucasian

____Native American Indian ____Other

III. HABITS

Alcohol: If you imbibe, estimate the kind, amount, and for how long.

Wine (6 Oz.) _____ per day _____ per week _____ per month _____ how long

Alcohol(1 oz.-80 proof or more) _____ per day _____ per week _____ per month _____ how long

Beer (12 oz.) _____ per day _____ per week _____ per month _____ how long

Over the past 5 years has your intake: _____ increased _____ decreased _____ remained the same

Have you ever been advised to stop drinking? Yes or No _____
If so, approximately when?_____
If so, did you follow this advice, and when? Yes or No _____ When_____

Tobacco:

Have you ever smoked, chewed tobacco or used snuff regularly? Yes or No _____
If so, at approximately what age did you start? _____
If you did smoke, but stopped, at what age did you stop? _____
If you are still smoking, how much?

Cigars _____ no. per day Pipe _____ bowls per day Cigarettes _____ packs per day

Snuff _____ amount per day Marijuana _____ amount per day

Estimate the total years you have smoked? _____
Are you exposed to significant amounts of smoke _____ at work _____ at home _____ other plac
Do any other members of your family at home smoke? _____
If so, which ones and how much? _____ spouse _____ children _____ others

Why do you continue to smoke? _____ nervous _____ weight problem _____ it's the thing to
_____ other

Do you think smoking is bad for your health? Yes or No _____

IV. EXERCISE

Did you participate in sports in high school or college? Yes or No _____
If so, describe the sports activities:_____

On a scale of 1 to 7 (7 being the most strenuous), rate your exercise level for each age range: 15-20 _____ 20-25 _____ 25-30 _____ 30-35 _____ 35-40 _____
40-45 _____ 45-50 _____ 50 + _____

Have you had any physical, mental, or other problems trying to indulge in regular cardiovascular or other physical fitness programs? If so, please amplify: _____

_____

On a scale of 1 to 7 (7 being the highest), underline the number that comes closest to your present ability or capacity at the present time:

Your athletic ability:	1	2	3	4	5	6	7
Your cardiovascular capacity (fatigue, shortness of breath, etc. from jogging, swimming, etc.):	1	2	3	4	5	6	7
Your muscular capacity - weight lifting, etc.:	1	2	3	4	5	6	7
Your mobility or flexibility of joints:	1	2	3	4	5	6	7
Is group or competetive exercise preferred:	1	2	3	4	5	6	7
Do you like to exercise alone:	1	2	3	4	5	6	7

Are you now participating in or performing regular endurance type of cardiovascular exercise? Yes or No _____
If so, what type of exercise(s)? _____
If so, how many times per week? _____ For how long? _____
If you check your heart rate during maximum exercise, what does it average? _____ per minute
If you have been exercising regularly, for how long? _____ months
Have you started exercise programs, but did not continue? Yes or No _____
If so, why did you stop? _____
How much time per day can you devote to an exercise program? _____
Are you willing to do so? Yes or No _____
If not, why? _____
Whether or not you have been engaged in a regular exercise program, descri any other physical activities in which you have been engaged:

_____

_____

Assuming the proper facilities are available, which 4 of the following would you prefer to participate in? (Rank 1 to 4; with 1 being first choice and 4 last choice). Mark only 4 of them.

____ Skiing	____ Tennis	____ Weight Training
____ Water Skiing	____ Volleyball	____ Stationary Running
____ Surfing	____ Badminton	____ Stationary Cycling
____ Swimming	____ Golf	____ Trampoline
____ Jogging	____ Handball	____ Raquetball
____ Running	____ Basketball	____ Sailing
____ Skipping Rope	____ Canoeing	____ Dancing
____ Cycling	____ Calisthenics	____ Hiking

Other Activities (Specify) _____

Does your job primarily require: Sedentary work (e.g. clerical)? _____
Light labor? _____ Moderate exertion? _____ Sudden "explosive" type of physical exertion? _____ Lifting heavy objects? _____ Hours per day on job? _____ Hours per week? _____
Would a daily exercise program interfere with your job? Yes or No _____
Would a daily exercise program help your job? Yes or No _____
Do you have any hobbies? If so, list them: _____

_____

15. List any vitamin-mineral supplements you take:_____

_____

16. If you snack, how often per day?_____
17. If you snack, what does it consist of?_____

_____

18. How many eggs in all foods do you average per week?_____
19. Underline the main meats in your diet - underline one group or groups:
    chicken, turkey, fish
    organ meats, hot dogs, bologna, fatty or fried or broiled meats, bacon, ham, hamburger (regular or less than 15% fat)
    steaks, chops, roasts
20. If you drink milk, how many glasses a day?_____ Skim?_____
    Low (2%) Fat?_____ Whole Milk?_____
21. Do you use: margarine _____ butter _____ both _____
22. How many cups of coffee a day?_____ Regular _____ De-Caf_____
23. How many cups of tea, whether iced or hot?_____

VI. TENSION AND STRESS

Answer the following questions with an X in appropriate column:

	YES	NO
1. Do you consider yourself tense or nervous?		
2. Do little things bother you?		
3. Do you think you waste alot of time at work?		
Do you think you waste alot of time away from work?		
4. Are you "easy going" and nothing bothers you?		
5. Are you able to remain calm under stressful situations?		
6. Do you consider yourself a "perfectionist"?		
7. Are you competetive or aggressive?		
8. Do you feel as though you are always facing deadlines?		
9. Does tenseness cause crossness and irritability?		
10. Does tenseness or nervousness interfere with work?		
11. Do you feel depressed any of the time?		
12. Are you even tempered?		
13. Do you become upset and angry very often?		
14. Is your tenseness or depression due to your job?		
15. Or is your tenseness or depression due to home or marital problems?		
16. Do you sometimes feel "life isn't worth living"?		
17. When depressed, do you drink?		
18. When nervous, do you drink?		

19. Is your sex life _____ very satisfying _____ satisfactory _____ unsatisfactory

Cardiac: (Check if present or past problems or history of)

- ____ "Feeling of suffocation"
- ____ Low blood pressure
- ____ Palpitation or "skipping"
- ____ Heart attack
- ____ "Inflammation of heart"
- ____ Pericarditis
- ____ Enlarged heart
- ____ High blood pressure
- ____ Last treadmill test
- ____ Told EKG "abnormal"
- ____ Heart murmur
- ____ Swelling of feet and/or ankles
- ____ Angina pectoris
- ____ Chest pain from heart
- ____ Shortness of breath
- ____ High cholesterol
- ____ High triglycerides
- ____ Heaviness or pressure in chest on exertion

Gastro-intestinal: (Check if present or past problems or history of)

- ____ Bloating
- ____ Belching
- ____ Black stools
- ____ Jaundice
- ____ Colitis or ileitis
- ____ Hemorrhoids
- ____ Heartburn
- ____ Ulcer.
- ____ Hiatal hernia
- ____ Bowel obstruction
- ____ Nausea
- ____ Recurrent vomiting
- ____ Constipation
- ____ Diarrhea
- ____ Gall bladder trouble
- ____ Cirrhosis of liver
- ____ Hepatitis
- ____ Food intolerance
- ____ Diverticulosis
- ____ Rectal bleeding
- ____ Abdominal pain
- ____ Change in bowel habit
- ____ Change in stools
- ____ Polyps
- ____ Abnormal upper GI, X-Rays or Barium Ener

Genito-urinary: (Check if present or past problems or history of)

- ____ Prostate infection
- ____ Gonorrhea
- ____ Syphilis
- ____ Herpes
- ____ Blood in urine
- ____ Protein in urine
- ____ Kidney infection
- ____ Up at night to urinate
- ____ Kidney stones
- ____ Trouble with intercourse
- ____ Enlarged prostate
- ____ Hesitancy
- ____ Small or slow stream
- ____ Urinary retention
- ____ Bladder catheterization
- ____ Kidney X-Rays (IV
- ____ Dribbling after urination
- ____ Poor bladder contr
- ____ Testicular proble
- ____ Scrotal problems
- ____ Abnormality of pe

Gynecological Problems: (Check if present or past problems or history of)

- ____ Taking estrogen?
- ____ Taking the "pill"
- ____ No. of pregnancies
- ____ No. of children
- ____ Abortion (miscarriage)
- ____ Last Pap smear
- ____ Abnormal Pap smear
- ____ Breast problems
- ____ Vaginal problems
- ____ Tube problems
- ____ Uterus problems
- ____ Ovarian problems

Menopause

- ____ Natural
- ____ Surgical
- ____ From radiation

Menses

- ____ Normal
- ____ Irregular
- ____ Spotting
- ____ Heavy flow
- ____ Premenstrual fluid retention

IX. FAMILY HISTORY:

	IF LIVING		IF DECEASED	
	Age	Health	Age	Cause
Father				
Mother				
Brothers/ Sisters 1.				
2.				
3.				
4.				
5.				
6.				
7.				
Daughter/ Son 1.				
2.				
3.				
4.				
5.				
6.				

Has any blood relative ever had:	Yes
Cancer	___
Tuberculosis	___
High Blood Pressure	___
Diabetes	___
Heart Disease	___
Blood Vessel Disease	___
Stroke	___
Epilepsy	___
Thyroid Problems	___
Insanity	___
Suicide	___
Asthma	___
Emphysema	___
Leukemia	___
Bleeding Disorder	___
Gout	___

NAME: JOE TYPICAL
DATE: 07/05/83

BODY COMPOSITION TEST RESULTS

ACTUAL

	LEAN WEIGHT	= +120.54 LBS.
%FAT = 22.28 %	FAT WEIGHT	= +034.56 LBS.
	TOTAL WEIGHT	= +155.10 LBS.

INTERMEDIATE GOAL: (1 MONTH GOAL)

			CHANGE REQUIRED
	LEAN WEIGHT	= +121.50 LBS.	+000.95 LBS.
%FAT = 20.00 %	FAT WEIGHT	= +030.37 LBS.	-004.19 LBS.
	TOTAL WEIGHT	= +151.87 LBS.	-003.24 LBS.

IDEAL:

			CHANGE REQUIRED
	LEAN WEIGHT	= +125.00 LBS.	+004.45 LBS.
%FAT = 15.00 %	FAT WEIGHT	= +022.06 LBS.	-012.50 LBS.
	TOTAL WEIGHT	= +147.06 LBS.	-008.05 LBS.

WOMEN

0---------10--------20--------30--------40--------50

IDEAL FAT FOR WOMEN: 20-22%
ESSENTIAL FAT FOR WOMEN: 10-12%
IDEAL FOR WOMEN ATHLETES: 12-18%

MEN

0---------10--------20--------30--------40--------50

IDEAL FAT FOR MEN: 15%
ESSENTIAL FAT FOR MEN: 3-6%
IDEAL FOR MEN ATHLETES: 6-12%

LUNG FUNCTION ASSESSMENT:

ACTUAL: 4.61 NORMAL: 4.48 % OF NORMAL = 103 %

RESTING METABOLIC RATE:

1661.87 CALORIES/24 HRS.

TOTAL FITNESS PROFILE

	CARDIOVASCULAR	BODY COMPOSITION	STRENGTH	FLEXIBILITY
	Treadmill/1.5 mile	% Fat	Trunk/Arm/Leg	Sit and Reach
EXCELLENT				
GOOD				
FAIR				
POOR				
VERY POOR				

		Score	Level
Cardiovascular	Treadmill 1.5 mile	_____ _____	_____ _____
Body Composition	Underwater Skin folds	_____ _____	_____ _____
Strength	1 minute sit-up 1 R.M. bench press 1 R.M. leg press	_____ _____ _____	_____ _____ _____
Flexibility	Sit and reach	_____	_____

FITNESS GOALS

CARDIOVASCULAR FITNESS----------Current Level _____

Goal _____

Target _____

Time _____

BODY COMPOSITION----------Current Level _____

Goal _____

Target _____

Time _____

STRENGTH Trunk----------Current Level _____

Goal _____

Target _____

Time _____

Arms----------Current Level _____

Goal _____

Target _____

Time _____

Legs----------Current Level _____

Goal _____

Target _____

Time _____

FLEXIBILITY----------Current Level _____

Goal _____

Target _____

Time _____

EXERCISE PRESCRIPTION

AEROBICS PROGRAM

	Sun	Mon	Tue	Wed	Thur	Fri	Sat	Total Points
Week 1								
Week 2								
Week 3								
Week 4								
Week 5								
Week 6								
Week 7								
Week 8								
Week 9								
Week 10								
Week 11								
Week 12								

STRENGTH PROGRAM

Sit-ups	Bench Press	Leg Press

SUGGESTED READING

SUGGESTED READING

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