Preparing our Firefighters for Combat

"A Physical Fitness Objective"

By: Lieutenant Perry Gerome Anderson Township Fire and Rescue Department 6211 Salem Road, Cincinnati Ohio 45230

A proposed research project submitted to the Ohio Fire Executive Program

CERTIFICATION STATEMENT

I hereby certify that the following statements are true:

- 1. This paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.
- 2. I have affirmed the use of proper spelling and grammar in this document by using the spell and grammar check functions of a word processing software program and correcting the errors as suggested by the program.

Signed:	
Printed Name:	

ABSTRACT

The Anderson Township Fire and Rescue Department (ATFRD) has been promoting physical fitness in the fire service since 1994. In recent years the program has lost some of its effectiveness with results being unfavorable during annual evaluations.

This research paper was initiated in an attempt to discover what is necessary to reestablish fitness as a priority. Are we preparing our firefighters for combat? Combinations of historical and evaluative methods were utilized to answer the following questions:

- 1. Are fire department fitness goals currently being met?
- 2. Are employees actually participating in the fitness program currently provided?
- 3. What improvements can be made to increase participation?

The procedures used for this project were to evaluate the implementation of the program and its effectiveness on employees of the ATFRD. Computer records and results from an outside fitness consultant were evaluated. In addition, a survey was distributed to ascertain participation efforts. The program was reviewed in its entirety with recommendations made to increase participation levels. In total, the results were used to establish the effectiveness of the current program and the need for improvement.

Several areas are in need of improvement for the continued success of the physical fitness program at the ATFRD. The areas targeted for improvement are:

- 1. Better computer record-keeping
- 2. Establishing Peer Fitness Trainers
- 3. Re-introducing contract verbiage
- 4. Incentive programs for participant improvement

The physical fitness program needs to be defined in greater detail so that there is a complete understanding of what is expected between labor and management. Supervisors must lead by example and monitor the progress of their firefighters so that they are properly prepared to participate in fitness on a daily basis. This will allow for greater results during annual fitness testing and better prepare firefighters to perform daily firefighting activities to the best of their ability.

TABLE OF CONTENTS

CERTIFICATION STATEMENT	2
ABSTRACT	3
TABLE OF CONTENTS	5
INTRODUCTION	6
BACKGROUND AND SIGNIFICANCE	8
LITERATURE REVIEW	11
PROCEDURES	16
RESULTS	17
DISCUSSION	19
RECOMMENDATIONS	22
REFERENCES	26
APPENDIX 1 (Survey Results)	27
APPENDIX 2 (Log-in Records)	28
APPENDIX 3 (YMCA Results)	29

INTRODUCTION

The Anderson Township Fire and Rescue Department is committed to providing fire personnel with an exceptional physical fitness program to keep firefighters safe and to promote firefighters' health and wellness. This research project explores physical fitness in the fire service and establishes appropriate guidelines which encompass the parameters set forth by this firefighting organization. "Are we preparing our firefighters for combat?" Can we condition ourselves so that we are prepared to encounter any incident and fulfill our professional responsibilities successfully?

The Anderson Township Fire and Rescue Department provides a physical fitness program to all of its fire personnel; however, the department isn't achieving the desired compliance level it strives for. Numerous studies have proven that the fire service is not prepared to function properly under extreme conditions such as intense heat and a strenuous working environment. We consistently maintain our equipment and our apparatus so that they will operate properly when called upon; however, we ignore our personnel and their fitness levels in terms of preventative maintenance.

The Anderson Township Fire and Rescue Department has been actively pursuing programs that benefit the health and well being of fire personnel. They have been on the forefront of promoting physical fitness for the last ten years. The programs originally initiated are outdated and in need of new ideas and concepts. The program needs to be revisited and evaluated for needs assessment. Are the current needs being met?

The problem this study will address is evaluating the current fitness programs for effectiveness and developing a compliance standard for employees in pursuit of a successful physical fitness program.

For years, the Anderson Township Fire and Rescue Department required its personnel to complete an annual fitness agility test. This test was categorized by age groups and limited in its capacity to track individual performance levels. It was a "pass" or "fail" type of testing procedure and inadequate in terms of evaluating the needs of fire personnel.

The purpose of this study is to evaluate the physical fitness level of Anderson

Township firefighters and to establish a well-rounded physical fitness program to ensure
that professional goals and objectives are being met. We must define a baseline for physical
fitness in the fire service and establish appropriate guidelines for health and wellness so that
our fire personnel are prepared for battle when called upon.

The research questions this study will investigate are historical and evaluative in nature.

- 1. Are fire department fitness goals currently being met?
- 2. Are employees actually participating in the fitness program currently provided?
- 3. What improvements can be made to increase total participation?

BACKGROUND AND SIGNIFIGANCE

Ten years ago, The Anderson Township Fire and Rescue Department initiated an inhouse workout program for its employees. This entailed providing fitness equipment in all the fire stations and requiring the firefighters to workout daily. Township Officials, Fire Administrators, and the Firefighters' Local 3111 agreed to include a paragraph in the firefighters' contract that stated: "All fire personnel would participate in fitness activity while on duty". This concept was widely accepted by firefighters, and an outside fitness consultant was contracted to oversee fitness and nutrition programs for all fire personnel. The fitness consultant also created fitness profiles and measured each employee in the areas of: strength, flexibility, aerobic capacity, and body fat composition.

This proactive approach to fitness had never been previously supported by the Township Trustees. Prior to the adoption of fitness facilities, each firefighter was encouraged to workout off-duty and to report their fitness progress to their supervisors. Firefighters failed to track progression effectively so the system failed. Other attempts to solicit outside agencies such as the YMCA failed due to a lack of interest by personnel. Firefighters wanted to be compensated for their time even if the facilities and programs were sponsored. The lack of initiative and poor physical condition of fire personnel led to the search for a systematic approach to physical fitness.

Fire recruits undergo many weeks of training that expose them to simulated firefighting activities. They accept that the firefighting profession is inherently dangerous, and yet they choose to pursue a career which is physically demanding and mentally challenging. After graduating recruit school, how does one maintain their physical fitness conditioning? Many firefighters don't exercise or condition themselves to sustain a twenty-

five year firefighting career. How do fire officers allow this to be the norm? It is certainly not acceptable for firefighters to place themselves and their crews at risk. Firefighters cannot continue to accept that firefighting is dangerous and not do anything to prevent illness or injury to themselves.

"Are we preparing our firefighters for combat? In most cases the answer is unequivocally "NO". Officers instill training, training, training, but disregard fitness as a mandate for firefighters. The average fire department has no guidelines in place for conditioning firefighters on a daily basis. Changing the mindset of our Fire Administrators is imperative so that they understand the importance of preventative maintenance (PM). This preventative maintenance applies to all fire equipment and should include fire personnel as well.

Fire officers can prevent unnecessary illness and work related injuries with proper conditioning and physical preparation. This will allow for fewer workers compensation claims and reduce the amount of sick days lost, thus preventing the replacement costs for firefighters. Providing a healthy alternative life style carries over into our personal lives and can be infectious in terms of soliciting support for our fitness programs. Most personnel want to be health conscious. Initiating a physical fitness program in the workplace promotes a firefighting career free from injury and reduced stress.

We can prepare our firefighters for combat. This research project will explore different types of programs available to fire personnel and establish a compliance standard consistent for maintaining proper physical fitness levels to sustain a long and healthy firefighting career.

The potential impact this study could have on the Anderson Township Fire and Rescue Department is monumental in terms of financial restitution, minimizing work related injuries, replacement of personnel, and promoting the longevity of fire personnel. The overall fitness of firefighters can be improved producing a return in performance on the fire ground. Conditioned fire personnel will be more effective at conducting fire evolutions, as well as be more productive in their use of self-contained breathing apparatus. Changing the fitness levels of employees will enhance overall performance and increase the safety to all firefighters and to the citizens they serve.

LITERATURE REVIEW

In an article by Freeman (2004) he states "fire professionals require expert hands-on instruction covering proper body mechanics, personal safety techniques, and physical fitness applying specifically to suppression, prevention, victim management and station-based activities". A specific workout regimen devised to the direct needs of firefighters. Freeman also states "a proactive approach to injury prevention and health preservation should be offered and emphasized at every level and that the causes and effects of injuries to public safety professionals require more than policy statements, passive instruction and vigilance in claim management for results". Defining fitness levels for employees can be difficult without proper direction from certified fitness specialists. Van Buskirk and Anderson (2001) state that no two firefighters start out with the same fitness level or the same personal goals and that firefighters' exercise programs will vary widely. Individual programs should be comprehensive, tailored to the firefighter's particular needs and interests, and interesting enough that those involved will carry it out. All firefighter fitness programs should include some type of weight training, activities for cardiovascular fitness, and flexibility conditioning. These three elements reflect the characteristics needed in order to function well in the workplace. Incorporating these elements into daily fitness regimens will enhance the overall effectiveness of our physical fitness programs.

DiNubile and Sherman (1999) reported that a number of studies point out the benefits for companies that provide workplace exercise programs. They affirm that a reduction in healthcare and insurance costs is a direct result in documented case studies. They also conclude that declines in absenteeism, injury rates, injury related absences, and turnover, as well as improvements in job performance and productivity are measurable

benefits. They also indicate that intangible factors such as employee satisfaction may be relevant in hiring and retaining qualified employees. Establishing on-site fitness centers will provide employees with the tools to maintain a healthy work atmosphere. These types of facilities aren't without cost; however the cost/benefit ratios suggest that these programs make economic sense.

Round and Green (1998) explore the possibility of motivating firefighters to exercise. They state that," there are two sources of motivation, intrinsic and extrinsic and that behavior can be influenced and modified using various strategies". Some strategies may include environmental cues or prompts, social support, goal setting, written agreements, and reinforcements such as feedback as well as externally offered rewards. The concept of rewarding behavior for exercising can be misunderstood for selling out as employers attempt to motivate employees to participate in fitness programs. Exercise is a behavior that can be influenced through motivational techniques. Round and Green also convey that the role of motivation in exercise is to drive the individual toward initiating and maintaining participation in exercise. Any attempt to inspire motivation is positive in nature and should be rewarded. This motivation technique would contribute greatly in improving the current fitness levels of firefighters. Where are we now and what can we do to achieve greater goals?

Currently fitness levels of firefighters are evaluated annually by an outside consultant. This consultant provides feedback to fire administration with respect to total increases or decreases in fitness performance. The individual performance evaluation is reviewed by the firefighter who is advised of what category he/she occupies. The ratings are classified as excellent, above average, average, and below average. Each employee is issued

a personal profile of their fitness performance in contrast to the other members of the department. These reviews are designed to initiate a strategy for fitness improvement. In, The Role of Physical Fitness in Managing the Occupational Hazards of Firefighting, presented by Darrell Mendenhall, he states that, "in developing strategies for compliance employees must establish missions, goals, and objectives while building a coalition of support between firefighters, labor, management, and the city". He also states that appointing a health and safety officer, and peer fitness trainers are essential for the department to communicate its mission and to develop a clear and concise fitness plan for its employees.

In the book "First In, Last Out", Leadership Lesson Learned from the New York Fire Department, Battalion Chief John Salka identifies fitness as it relates to leadership. He states, "there is a physical dimension to leadership". BC Salka declares that when you are in good physical shape, you find that you can think more clearly, are more alert, and have increased stamina all of which enables you to be more productive. BC Salka admits that even in his current position he is still engaged in fire operations. At the World Trade Center he spent days climbing over several acres of a razor sharp obstacle course. He states, "even if your job doesn't involve extreme situations, you can't lead out front if you're too stressed out and tired. And if you're not leading out front, you're not really leading". In his chapter summary on execution BC Salka defines six objectives that apply not only to leadership, but to fitness as well.(1) Establish clear expectations- setting specific and realistic expectations will inspire people to raise their level of performance.(2) Instill optimism- confident leadership is proven to help people overcome obstacles and work more effectively.(3) Put people in position to use their strengths- discover what your people are good at, and put

them in roles where they can draw on these strengths.(4) Let them do things their way-when you let people achieve objectives in their own way, they'll reward your faith in them.

(5) Provide feedback- constantly update people on their progress and offer constructive criticism. (6) Foster continuous improvement- this is the key to a successful organization or program. Salka states that by working with them to achieve performance standards will push them to keep developing their strengths.

In reviewing the IAFF/IAFC Wellness-Fitness Initiative, the overall consensus is to improve the quality of life for all firefighters. The initiative also reports that, the project seeks to prove the value of investing wellness resources over time to maintain a fit, healthy, and capable firefighter throughout his/her twenty-five to thirty plus year career and beyond. An effective program should realize significant cost savings in lost work time, workers compensation, and disability. The initiative takes a progressive position on fitness in the fire service and should be reviewed and adopted by all as a standard. Ten fire departments across the country have adopted this as a performance standard thus far with additional departments inquiring about the initiative.

The IAFF/IAFC Joint Labor Management Wellness/Fitness Initiative was recently adopted by the Prince William County (Va.) Fire and Rescue Department. In a recent article in Fire Chief Magazine, Bowman, Keen, and Cook state that developing such a program can lead to a successful endeavor. They tout that marketing the idea of wellness within the department and to local government will get people excited about the possibilities, but the department's leadership must buy-in and be out front leading the charge. The more exposure the IAFF/IAFC wellness/fitness initiative receives the more prevalent the standard becomes in the fire service. Fitness must be a priority for fire administrators and the fire service. The

concept of fitness has to be accepted and adopted so that firefighters can prolong their careers and retire healthy.

In reviewing, Managing Health Promotion in the Workplace, Rebecca Parkinson identifies two key factors when evaluating the need for a fitness program. She states that there must be evidence to support that the program will be cost effective and that the programs will improve employee health and wellness. This holds true when measuring the program for effectiveness. If the benefits outweigh the risks than an evaluation component is necessary to gauge performance among firefighters. This evaluation process is critical for determining goals and objectives for individual fitness growth.

PROCEDURES

The procedure used to substantiate this research project is limited to computer log-in records, individual evaluations, and the data collected from fitness consultants responsible for overseeing annual fitness assessments for the Anderson Township Fire and Rescue Department. The information obtained will only be as accurate as the person entering it. Assessing the programs overall efficiency will depend on the cooperation of individuals to reveal their participation efforts. A survey was initiated with anonymity so that accuracy could be achieved while protecting the privacy of employees. The survey asked specific questions related to the programs effectiveness and availability. The survey was utilized as a tool to measure participation while providing necessary information to establish benchmarks for initiating an effective fitness regimen. The outcome of this research project will produce results with respect to: (1) evaluating current participation in the fitness program, (2) defining fitness levels for all employees, and (3) evaluating the need for a successful physical fitness program at the Anderson Township Fire and Rescue Department.

The evaluation process was limited to the last two years so that current and accurate data could be analyzed. The data studied includes computer log-in records, workers compensation claims, and information provided by an outside consultant who conducts annual physical fitness assessments. The information is provided in Appendices with this report.

RESULTS

The results of this research project clearly indicate an increase in participation and fitness levels of the employees of the Anderson Township Fire and Rescue Department for the period evaluated. The number of workouts increased over time depicting the commitment of firefighters to participate in the fitness program. One contributing factor to this increase is the ability of firefighter's to report to work wearing fitness attire. The department allows its members to purchase fitness attire with their clothing allowance. Employees are permitted to be in workout attire each day until noon. The firefighter's report to duty, check their equipment briefly and deploy to the fitness room as a team. The firefighters along with their supervisor are then required to participate in a fitness program which consists of aerobic and weight training for no less than forty minutes per day. A policy defining this arrangement has been in affect since June of 2000. It is the responsibility of the station supervisor to monitor the participation of each member in the program. This policy enables the supervisor to provide recourse in the event that participation falters.

On average, the number of workouts increased (See Appendix 1); however the average fitness levels decreased as a whole. The average weight of the firefighters increased five pounds from 207 to 212 pounds. Body fat percentage increased four percent. The cardio mileage decreased .14 miles from last year. The strength statistics for the bench press was down two and the lat pull down increased by nine, with the leg press being unchanged. Flexibility was less than last year with a -1. (See Appendix 2)

The results of the fitness survey revealed that on average the fitness program is well received by the employees. When asked if they were satisfied with the current program,

eighty-two percent responded favorably. When asked how often they participated, ninety-eight percent acknowledged that they do participate. The third question solicited whether the program needed to be updated. Ninety-four percent of the firefighters agreed that some improvement is needed. When asked if the facilities were adequate, ninety-eight percent stated that they were satisfied with the fitness facilities. And finally, when surveyed whether they felt that their fitness level was adequate for job performance, ninety-eight percent responded affirmative (See Appendix 3). This simple survey revealed that on average the consensus was favorable in support of the physical fitness program at the Anderson Township Fire and Rescue Department. Most indicated that some improvement is needed to update the program to meet the current needs of firefighters.

DISCUSSION

Implementation of a fitness program at the Anderson Township Fire and Rescue Department has proven to be well received by many of the firefighters. The majority of the employees have embraced the opportunity to exercise on duty. They perceive fitness as a benefit and are accepting fitness as a priority in their daily schedule. Conversely, the minority have shunned fitness and refuse to accept exercise as a way of maintaining a healthy lifestyle. Because of this type of attitude, developing fitness programs and encouraging participation has been difficult in recent years. The results of this research project have revealed that a newfound interest in fitness is emerging.

When the fitness program was first developed, many employees disregarded the importance of establishing a healthy lifestyle with physical exercise as a foundation for that change. The absence of structure contributed to a lack of participation in early years. The concept was not fully embraced and in need of a formal policy to generate interest in the program. The fire administration proactively approached the union to garnish its support for the concept. The union conceded to the idea provided that designated fitness rooms be outfitted with sufficient equipment for firefighters to utilize. A policy was then developed to require participation and recorded entries into daily records. That agreement lasted six years before being removed from the contract. A standard operating guideline was implemented in 2000 to usurp the contract omission. The current contract contains verbiage outlining fitness standards, which may be initiated pending recommendation from the Joint Labor Wellness/Initiative co-sponsored by the International Association of Firefighters and the International Association of Fire Chiefs. The culture shock of having to participate in fitness while on duty is over. Employees have accepted that fitness is part of their daily work

regimen. Participation has increased, evidenced by reviewing computer records and witnessing the participation effort daily.

The position of firefighter is physically and mentally demanding. The literature reviewed for this project supports the need for fitness in the fire profession. Fire officers must embrace the concept of physical fitness and enforce the usage policy so that they can prevent accidents and illness among fire personnel. This responsibility has to be taken seriously with the high cost of replacing personnel who are injured as a result of not being fit for duty.

The trend is changing with regards to fitness in the fire service. The exercise standards that will be established are designed to provide fitness levels that will protect firefighters from injury and illness. The amount of loss time prevented with a fitness program is measured with decreased sick and injury rates and better overall job performance. Prolonging the amount of time a firefighter can operate at a fire scene is crucial when operating with minimum manning and budget restraints.

The influx of new fire recruits has introduced some interesting challenges with respect to fitness participation. Many of the new employees lack the discipline to stay committed to a structured fitness regimen. This study reveals the benefits of a fitness program and will be scrutinized by those who refuse to subscribe to the concept of fitness. The fitness policy and positive attitude of fire officers will assist in promoting fitness with the Anderson Township Fire and Rescue Department.

The literature reviewed supports the need for physically fit employees due to the type of work and job related stress that firefighters' face daily. Current exercise standards have been established to aid employees in maintaining fitness levels that will help them

perform at maximum capacity while protecting them against injury and illness. The

Anderson Township Fire and Rescue Department is clearly committed to providing

firefighters with an opportunity to stay physically fit. This shows a commitment to reducing

work related injuries and promoting longevity. Statistical data revealed that firefighters are

participating in physical fitness, but more involvement is needed to promote solidarity

among fire personnel. Many of them are going through the motions with regard to fitness.

This is apparent with review of annual fitness results provided by the YMCA. Firefighters

are failing to show improvement in recent years. There must be an emphasis on re
establishing physical fitness as a priority.

Freeman (2004) states "fire professionals require hands on instruction". This can be accomplished with Peer Fitness Trainers and an outside consultant providing specialized attention to non-conforming employees who are in need of additional instruction. The more familiar the firefighters are with managing their own fitness levels the better the department is as a whole in terms of performance and proficiency. The firefighters at the Anderson Township Fire and Rescue Department can be conditioned to accept physical fitness as a standard while protecting the citizens they serve to the best of their ability.

RECOMMENDATIONS

The Anderson Township Fire and Rescue Department has seen some success with its fitness program over the past few years. Several changes need to occur in order for the department to establish a successful physical fitness program. The changes needed are; better computer record-keeping, establishing peer fitness trainers, reintroducing contract verbiage, and incentive programs for participant improvement.

The records queried have shown that firefighters are participating as required by the fire administration and the department's policy. One problem with the computer recording though is the lack of descriptive analysis for each entry. The station officer is only required to enter personnel and participation. This shows how many and how often for duration, but doesn't define specifically what transpired during the actual workout. Better record-keeping needs to be established so that improvement can be assessed through documentation. Perhaps a department issued fitness card for accurately recording daily workouts. This card could be distributed by the station officer and collected at the end of each month. The officer would be responsible for signing the card verifying that the employee did participate and that individual goals had been met. Providing an easier way to record employee's participation will lead to more accurate entries and more user-friendly reviews. Creating a database for such record-keeping will also aid officers in assessing employees' overall improvement. This program can also provide for easy recovery of information for program review. These programs could then be reviewed and evaluated periodically so that acknowledgement can be made for the program's success.

Establishing Peer Fitness Trainers (PFT) has to be a priority for fire administrators.

The department had formerly assigned three certified fitness coordinators for establishing

fitness programs for the employees. This concept failed due to the lack of participation by employees to seek guidance from these coordinators. The officers for each station must ensure participation and provide instructional guidance for firefighters who need direction. Appointing Peer Fitness Trainers who are trained to instruct personnel and design fitness workouts will enhance the current system already in place. Mendenhall (2004) states "Peer Fitness Trainers are essential for the department to communicate its mission". These trainers can also provide nutritional information and design programs for weight loss. The PFT's will also be responsible for reviewing monthly computer log records and preparing the employee for the annual fitness testing. The testing is performed by outside consultants who are impartial and report their findings to fire administrators.

The collective bargaining agreement between labor and management needs to be addressed in the area of fitness participation. The contract currently doesn't require that employees participate in fitness related activity. The collective bargaining agreement must define fitness and support the standard operating guideline currently in place. A compliance standard must be developed utilizing input from outside consultants. This must be accomplished for the station officers to enforce mandates in the area of participation. The wording should define what participation is so that vagueness can be avoided and employees held accountable. The contract does make mention of the IAFF/IAFC Joint Labor Management Wellness Initiative. This initiative should be explored more thoroughly and adopted by the ATFD to further show its commitment to fitness, and its employees. Currently, there are ten fire departments that subscribe to the fitness initiative. I believe that by joining these other departments in their efforts will create the ideal standard the ATFD is searching for.

A reward system for accomplishments and obtaining goals needs to be established. Acknowledging firefighters for achieving milestones and preset goals will be tantamount with reinforcing the positive attributes of a physical fitness program. Holding each firefighter personally responsible for their own fitness progress is the responsibility of the supervisors assigned to their respective stations. These officers must ensure participation and progress so that their team can continue to improve their health and fitness. Round and Green (1998) state that, "exercise is another behavior that can be influenced through motivational techniques". Promoting incentive based rewards or recognizing individuals for progress will boost participation and apply needed peer pressure for the program to be successful.

In closing, the review of the physical fitness program at the Anderson Township Fire and Rescue Department revealed that the current system needs updating. All firefighters are required to participate in fitness activity; however the participation needs to be defined more clearly. Defining physical fitness will provide the program with meaning and substantiate the wellness program for the township. Better documentation will also help in tracking progress and improvement. Appointing Peer Fitness Trainers (PFT) who are certified to instruct will contribute to greater understanding of weight training, aerobic activity, and nutritional information. The PFT's can establish individualized programs for firefighters and provide direction on proper technique and form when utilizing weight equipment. Providing incentives or rewards and recognizing individual and team progress is essential in maintaining focus on the program. In order for the program to be successful, a joint venture with firefighters and administrators must be initiated. There must be standards with measures in place to gauge performance. Without performance measures the fitness program

lacks credibility. Providing these measurements will enhance the programs overall efficiency and secure enthusiastic participation in the department.

REFERENCES

Round, Amber & Green, Dick. (1998, September). Can Money Motivate Firefighters to Exercise? *Fire Engineering*, pp. 199-122

Manning, Bill. (1996, December). Fits Over Fitness. *Fire Engineering*, Vol. 149, Issue 12, p.6.

Freeman, Russell, D.C. (1999, Spring). Protecting the Protectors, Getting a Grip on Firefighter Safety. Ask The Doctor, Firedept.net, pp.1-4.

Dinubile, Nicholas & Sherman, Carl. (1999, February). Exercise and the Bottom Line. The Physician and Sports Medicine, Vol. 27, pp.1-5.

Salka, John. (2004). First In, Last Out. Leadership Lessons Learned from the New York Fire Department, p. 40, and p. 167.

Mendenhall, Daryll. (2004). The Role of Physical Fitness in Managing the Occupational Hazards of Firefighting. Public Safety Medical Services, pp. 1-18.

Van Buskirk, Lisa & Anderson, Linnea. (2001, December). Fitness for Firefighters. Firework, pp.1-6.

Bowman, Keen & Cook. (2005, February). Aggressive Stance. *Fire Chief*, pp. 60-64. IAFF/IAFC. (1997). Fire Service Joint Labor Management Wellness-Fitness Initiative.

Parkinson, Rebecca & Associates. (1982). Managing Health Promotion in the Workplace, Guidelines for Implementation and Evaluation, p.43.

APPENDIX 1

Survey questions posed to firefighters to ascertain satisfaction with the current program. The questions solicited a response with a number rating from 1 to 5. The number 1 indicating dissatisfaction with the program and a 5 representing extreme satisfaction with the current program. Sixty-six firefighters were surveyed in total with sixty-four surveys returned.

How would you rate the current fitness program?

Eighty-two percent of the people surveyed were satisfied with the current program.

How often do you participate in fitness activity?

Ninety-eight percent of the employees stated that they do participate in fitness activity.

Does the fitness program need to be improved?

Ninety-four percent stated that the fitness program needs some improvement.

Are you satisfied with the current fitness facilities?

Ninety-eight percent of the people surveyed stated they are satisfied with the facilities.

Is your current fitness level adequate for job performance?

Ninety-eight percent of the firefighters surveyed claim that their current fitness level is adequate for overall job performance.

APPENDIX 2

Anderson Township Fire & Rescue

Monthly PE Counts by Station

Date between (01/01/2003) and (12/31/2003)

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov :	Dec	Total
10	16	15	15	17	23	19	14	23	28	24	21	27	242
100	21	12	19	22	22	20	19	23	19	22	17	21	237
101	28	22	22	20	16	17	13	11	19	22	16	13	219
6	13	16	21	19	19	21	17	23	17	18	24	20	228

Anderson Township Fire & Rescue

Monthly PE Counts by Station

Date Between (01/01/2004) and (12/31/2004)

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
10	28	24	25	24	27	28	30	28	29	29	26	20	318
100	26	23	25	19	23	26	26	28	28	30	24	24	302
101	16	15	16	17	20	23	19	17	15	22	17	15	212
6	22	20	24	17	19	20	28	20	17	20	18	21	246

APPENDIX 3

Fireman Fitness Average for 2003 and 2004

Statistics Provided by the YMCA

Year	Height	_	•	Cardio Mileage			_	Flexibility
2003	5'11"	207	23%	1.31	40	33	44	18.75
2004	5'11"	212	27%	1.17	38	42	44	17.75
Avg.	5'11"	209.5	25%	1.24	39	37.	5 44	18.25
Diff	. 0	+5	+4%	514	-2	+9	9 0	-1