

**Investigating the Effectiveness of a Voluntary Fitness Program in the Ashland Fire
Department**

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A research project submitted to the Ohio Fire Executive Program

04 July 2004

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.

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ABSTRACT

The problem addressed was the AFD voluntary fitness program has had no definitive evaluation conducted to determine effectiveness. The study's purpose was determining whether this program is effective. Through evaluative research, these questions were addressed: what are the fitness standards for firefighters, what incentives would encourage participation in the current program, would a mandatory program decrease disability retirements? All data was obtained from Internet research, libraries, AFD/City of Ashland policies/procedures, and AFD survey answers. Study results indicated that the NFPA & IAFF/IAFC are leading authorities on fire service issues. Incentives listed included monetary rewards, set workout time, total participation, and personalized programs. The majority surveyed desired mandatory program if "non-punitive." Recommendations included personalized programs, databases, support, and future program re-evaluation.

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INTRODUCTION

Statement of the Problem

Every year, firefighter death and injury surveys demonstrate that firefighting remains one of the most dangerous professions in the United States. Dr. David Bever, a professor of health education at George Mason University, provides the following research from his Fire Fit program (retrieved 06/15/2003):

- Each year in the United States, over a hundred firefighters die in the line of duty, and another 500 are forced into early retirement because of job-related illnesses and injuries.
- Almost 40,000 firefighters suffer lost time from occupational injuries. Nearly 45 percent of firefighter deaths are from heart attacks, and over 40 percent of the disabling injuries are the result of strains and sprains of the back, torso, and upper extremities.
- It's been estimated that a municipality may have to pay as much as \$300,000 more for a disability retirement than for a normal retirement.

Since the 1960's, the Ashland Fire Department (AFD) has experienced two heart-related line-of-duty deaths (by today's standards), and several other members have received disability retirements that are both heart and injury related. The problem this study will address is that even though the Ashland Fire Department has had a voluntary physical fitness program in place for over ten years, no definitive evaluation has been conducted to determine its effectiveness.

Purpose of the Study

The purpose of this study is to determine if the current physical fitness program is effective or if changes need to be implemented to make it more effective. The results will be presented to the Labor/Management Committee for discussion and possible action. The research method used in this project was evaluative.

Research Questions

The research questions this study will investigate are:

1. What are the minimal firefighter fitness performance standards?
2. What motivating factors would promote our Department's voluntary fitness program?
3. Could implementing a mandatory program decrease our Department's chances of incurring any further disability retirements?

BACKGROUND AND SIGNIFICANCE

The American Heart Association (2000, p.17) lists the following major controllable risk factors for heart attacks. First is cigarette smoking, which will not be addressed in this paper. The second and subsequent causes are more pertinent to the study, including high blood pressure, then high cholesterol, obesity, and lack of exercise. The lack of exercise can contribute to some of the other causes of heart attacks, poor health in general, and difficulty in performing jobs requiring intense physical activity.

Since 1992, the Ashland Fire Department has had a mandatory Physical Ability Examination administered to individuals as part of its hiring process. This Ability Test consists of eight events that are performed in a continuous fashion. The exam is timed from the start of the first event through the completion of the final event. An overall time limit of twelve minutes is imposed. During the process, the candidates are required to wear a bunker coat, fire boots, helmet, and an empty self-contained breathing apparatus (SCBA) bottle/harness assembly throughout the test, in order to simulate work conditions.

The problem is that this physical testing process was a one-time occurrence. In other words, once a firefighter was hired, there was no department-sanctioned fitness program to participate in. In fact, working-out on duty was frowned upon due to injury/liability issues within the department.

Several attempts were made to rectify this situation. First, there was a change in administration of the department when a new chief was sworn-in in 1994. In 1995, a body composition analysis was performed on all career members of the department. Included in this analysis was an activity recommendation. No further action was taken, however, regarding the method in which we measure the fitness of the firefighters.

In 1997, the City of Ashland and the firefighter's union (International Association of Firefighters Local #1386) entered into a contractual agreement that requires all career members annually perform the same Ability Test, which is administered to candidates. There is no delineation amongst age groups or seniority. Everyone must finish the test in less than twelve minutes. Those who fail to pass in the required time limit are subject to a mandatory one-hour physical training (PT) period every duty day. To date, the only members who have failed to finish the test in the required time limit were a few persons doing so on purpose as a "silent protest." They felt the only way that they would workout would be if they were forced to do so.

Also included in negotiations were provisions for a yearly comprehensive medical examination, or physical, to be given prior to the administration of the yearly Ability Test. This exam is modeled after NFPA Standard 1582, The Standard on Medical Requirements for Firefighters and Information for Fire Department Physicians (2000 Edition), and is based on guidelines established Fire Service Joint Labor Management Wellness/Fitness Initiative (1997, pp.9-41). Monies are also budgeted each year for the purchase of exercise equipment recommended by our departmental Labor Management Committee. To date, the Department has an excellent selection of both cardiovascular and resistance training equipment.

This agreement put the Ashland Fire Department heading down the path to improved fitness and, thus, improved job performance. In fact, in February of 1999, all career firefighters were given a Firefighter Fitness Assessment, which consisted of a battery of testing stations similar to those suggested in the International Association of Fire Fighters(IAFF)/International Association of Fire Chiefs(IAFC) Joint Labor Management Wellness/Fitness Initiative (1997, pp.B1-1 – B1-34). As part of this, individuals were also given the opportunity to become involved with personalized exercise programs, which were not mandatory. A follow-up

assessment was to be given at a later date, but the enthusiasm that was shown at the beginning of the program did not last and no follow-up was ever scheduled.

Inadequate monitoring of physical fitness within the department, as well as poor follow through with proposed fitness plans, can limit the ability of the firefighters to satisfactorily perform their job.

The potential impact this study could have on the Ashland Fire Department is that, hopefully, by aggressively pursuing a quality fitness program in conjunction with our comprehensive medical examinations, we may prevent any reoccurrences of any heart related line-of-duty deaths or disability retirements due to heart or job related injuries.

LITERATURE REVIEW

Standards

One widely accepted authority on this matter is the National Fire Protection Agency (NFPA). Although following the standards that are developed by the NFPA are not mandatory, many jurisdictions have adopted these guidelines. However, departments that do not abide by these standards still open themselves up to possible legal action from the court system.

NFPA 1500, Standard on Fire Department Occupational Safety and Health Program (1997, p.1500-21), contains both medical and physical requirements in Chapter 8 of the document. It requires an annual medical evaluation for all members who engage in fire suppression. Also, the fire department is to develop physical performance requirements for candidates *and* members, such as ability tests. Lastly, and most importantly, the standard states that fire departments “shall” establish and provide a physical fitness program based on standards determined by the department’s physician and it is required that *all* member participate. All of this is intended to reduce the probability and severity of occupational injuries and illnesses.

NFPA 1583, Standard on Health-Related Fitness Programs for Fire Fighters (2000 Edition) is considered to be a companion document to NFPA 1582, Standard on Medical Requirements for Fire Fighters and Information for Fire Department Physicians (2000). As mentioned earlier in this paper, NFPA 1582 emphasizes the need for annual medical evaluations similar to those established in the Joint Labor-Management Wellness Initiative (1997).

NFPA 1583’s (2000) purpose is to establish minimum requirements for a fitness program for fire department personnel. This program includes the following components:

- The assignment of a qualified health and fitness coordinator

- A periodic fitness assessment for all members
- An exercise training program that is available to all members
- Education and counseling regarding health promotion for all members
- A process for collecting and maintaining data

Researching the Fitness Forums on the Firehouse.com website, where fire department personnel gather to exchange ideas and methods, revealed that most departments with any type of fitness program, formal or informal, allow from one to two hours per shift for their firefighters to exercise. Some even have set times of the workday set aside as their exercise period in order to promote better follow-through with the fitness plans.

All paid firefighters from Escambia County (Florida) Fire-Rescue are required to participate in one hour of physical activity during their work shift (Mac Neil and Lanza, 2001, p.3). The majority of employees of the Las Vegas (Nevada) Fire Department work out every shift (Riddle, 1999, p.24), and work out time is “allowed and encouraged during the shift” for Fort Worth (Texas) firefighters (Peacock, 1998, p.3). Additionally, company officers of the Phoenix (Arizona) Fire Department have been instructed to “conduct at least one to one-and-a-half hours of physical training per shift” (Sierra, 1998, p.25).

Several departments reported that they have mandatory fitness evaluations twice per year, but most had either an annual test or nothing at all.

Motivation

A main source in discovering what motivates firefighters to participate in voluntary fitness programs once again comes from the Fitness Forums at Firehouse.com.

One member stated that their department has a “health stride” program. Participants get a special calendar and a list of rewarded activities with corresponding point system. For example,

for running, a firefighter receives twenty-five points per mile, twenty-five points per thirty minutes of weight training, and so on. Department members would write down their activities on the calendar along with the points earned. This runs for a quarter year. After that, the participants add all the points and specific totals are set as high marks that are rewarded with vacation time. The point system has a limit of 2000 points, earning six hours of vacation, before the record begins anew.

Another person reported that their department rewards fitness by awarding “Mall Bucks”. They are cash certificates issued for submitting a monthly workout report. Reportedly these “Mall Bucks” add up to about one hundred dollars per year.

Several others responded that they are motivated to work out because they want to be in shape so that they do not end up in the same physical condition as some of the people they transport to the hospital in their ambulance. Some also viewed fitness as a positive competition between individuals, crews, stations, and departments. The “old” guys don’t want the “rookies” showing them up, or the “girls” want to out do the “guys” types of scenarios. Numerous people reported that they exercise just because they know that it is good for them. They enjoy it and know that they need it to satisfy both their job demands and activities off duty as well.

Ultimately, as Albert Sierra quoted in his Executive Fire Officer (EFO) Research Project, “as professionals, it is every firefighter’s responsibility to ensure that he/she has the physical capability to execute the demanding tasks that are required...at the fire scene” (1998, p.34).

Mandatory vs. Voluntary

Webster’s New World Dictionary defines mandatory as follows: “authoritatively commanded or required; obligatory.” To make something mandatory implies that there are repercussions for not complying.

Although the Las Vegas (Nevada) Fire Department has a mandatory physical fitness program, “compliance to the program is minimally monitored or enforced” (Riddle, 1999, p.24).

Fort Worth (Texas) firefighters are given time each shift to exercise, have mandatory annual physical assessments, and their physical assessment provider offers free health club memberships to all uniformed personnel. However, their work out program remains voluntary (Peacock, 1998, p.3).

Palm Beach County (Florida) Fire Rescue, according to Albert Sierra (1998, p.8), “has not instituted any type of routine fitness program.” He goes on to state that the Department does not have annual medical exams or any level of fitness for its employees to maintain.

The fitness program in the Ontario (California) Fire Department is called a *full-participation program* rather than mandatory because “everyone, including the chief, has to participate in the group effort” (Sierra, 1998, p.26).

According to the Fire Service Joint Labor Management Wellness/Fitness Initiative (1997, p.1), the program is intended to be implemented as a “positive individualized program that is not punitive.” All results are compared against the individual’s previous examinations and assessments - not against a standard. Labor and Management together must develop a wellness/fitness program that is educational and rehabilitative, not punitive, ensuring full participation by all uniformed personnel.

NFPA 1583 Section 2.3.2 (2000, p.1583-6), however, states “the fire department shall require the structured participation of all members in the health-related fitness program.”

Section 2.3.1(2000, p.1583-6) also mentions that “each member shall cooperate, participate, and comply with the program.”

A member of the Firehouse.com Fitness Forum reminded us that mandatory also implies one hundred percent of something. In reality, getting one hundred percent of anything is difficult, if not impossible. One should not penalize people who are capable of doing the job, but cannot always meet some arbitrary standard. They should be compared against their own previous performance.

Another member replied that there are simply some people who will fight ten times harder not to exercise than putting forth the effort it would take to simply try and improve their fitness level. For this reason, and others, mandatory fitness programs are difficult to implement.

Mandatory or voluntary, most agreed that the most important aspect of the fitness program is to help the employees better themselves. Encouragement is to be the order of the day, not punishment. A comprehensive fitness policy, developed by Labor and Management together is the best place to start. Only then would one hundred percent/majority participation be achieved.

Prevention

A study by the Applied Exercise Science Laboratory at Texas A&M University shows that firefighters are often at high risk for heart attacks primarily because they get little or no exercise while on duty. Conductor of the study, Womack, states:

In almost all cases, the heart attacks suffered by firemen are directly linked to the exertion demands of the firefighter's job. They have long periods on duty in which they get little or no exercise. Then when a fire does occur, there is a sudden, intense energy demand required, and if they are not in physical condition, the results can be deadly (2001, retrieved 06/15/2003).

The message is clear: firefighters need to work out more if they are to complete their work successfully. In general, many firefighters follow a regular exercise and conditioning program. Some are allotted time on duty for physical conditioning, while others exercise on their own.

Considering fitness in general, most literature reviewed agrees that physical fitness is broken down into several categories, namely cardiovascular, flexibility, and strength conditioning. Firefighters need a healthy balance of all these fitness ingredients. According to his article in Firehouse Magazine, John Hayford (05/1996,p.60), an exercise physiologist who has conducted fitness programs for a number of fire departments, an effective cardiovascular exercise session takes from thirty to forty-five minutes. Flexibility, or stretching, shouldn't take more than fifteen minutes and a good strength training routine can be completed in about one hour.

A program consisting of a five to ten minute warm-up and a minimum of twenty minutes of cardiovascular exercise, strength training, and stretching is typical for firefighters according to an abstract by Dempsey, Stevens, and Snell, which was to be published in the May 2002 issue of Medicine and Science in Sport and Exercise (retrieved 06/15/2003).

All paid firefighters from Escambia County (Florida) Fire-Rescue are required to participate in one hour of physical activity during their work shift. Each firefighter may determine the type and intensity of exercise in which he or she participates (Mac Neil and Lanza, 2001, p.3).

As mentioned earlier in this paper, the American Heart Association (2000, p.17) lists lack of exercise as a major *controllable* risk factor for heart attacks. Several other risk factors,

namely obesity, high blood pressure and high cholesterol can be improved with a quality exercise program and thus decreasing a person's chances of suffering a cardiac event.

PROCEDURES

The initial research for this project began on the Internet looking for articles in journals, reports, periodicals, and Websites dealing with firefighters and physical fitness. The library at Ashland University (AU) was also utilized for further information and material, as well as several Executive Fire Officer (EFO) Research Projects retrieved from the National Fire Academy's (NFA) Learning Resource Center (LRC).

Department documents from the Ashland Fire Department including policies/procedures, current and past Union contracts, NFPA manuals, and previous physical testing examinations from 1992 to Present were reviewed as well.¹

A survey was used to interview all thirty-six uniformed members of the Department asking them their opinions on the subject of physical fitness. A personnel roster was consulted to assure that no member was omitted from the process, but the responses to the questions were tabulated anonymously. Each interview lasted approximately ten minutes. The entire interview process was conducted over a two-week period in February 2004. Five members of the Ohio Fire Executive Program, Class #3, were test subjects. Feedback was gathered on any confusion over the meaning of the questions as well as the overall interpretation of the questions.

Six closed-ended questions were asked, including an initial question asking the person whether or not he wished to participate. Each person was then asked his opinion on if he felt that physical fitness was important to his job, if his current level of fitness was adequate, if he felt the

¹ **Note:** The only medical examination results obtained were those of the author, due to restrictions of current Health Insurance Portability & Accountability Act (HIPAA) of 1996 regulations, and therefore were not included in any data compiled for this project.

Department's current program was effective, and two questions as to whether he believed that a fitness program should be voluntary or mandatory.

Only one open-ended question was asked at the end of the interview. Each participant was asked to list three incentives that would encourage him to participate in the current voluntary program.

A copy of the survey used in the interview is included as Appendix 1. It should also be noted that at the time this research was conducted, the Ashland Fire Department had no uniformed female members, hence the use of all male pronouns in this paper.

Limitations of the Study

The only limitation of this study, other than restricted access to medical exam data, which may be foreseen, would be if one or more participants gave deceptive responses during the survey interview. In this case, the results would not reflect the true opinions of the entire uniformed membership of the Ashland Fire Department.

It should be noted that one of the respondents of the survey/questionnaire answered the first question (*Would you voluntarily participate in this survey?*) "NO," but answered the remaining questions. Whether or not this skewed the results of this survey is unknown.

Also, there were several questions that were not answered by all members and therefore a true consensus of opinion was not attained.

RESULTS

The results of this research project came from the comprehensive examination of the data obtained from the Internet, published journal articles, periodicals, books, newspapers, EFO Research Projects, and a survey/questionnaire. Departmental documents including policies/procedures and Union contracts were used as well.

As mentioned earlier in this paper, a survey was used to interview all thirty-six uniformed members of the Department asking them their opinions on the subject of physical fitness. A personnel roster was consulted to assure that no member was omitted from the process, but the responses to the questions were tabulated anonymously. Each interview lasted approximately ten minutes. The entire interview process was conducted over a two-week period in February 2004. Five members of the Ohio Fire Executive Program, Class #3, were test subjects. Feedback was gathered on any confusion over the meaning of the questions, as well as the overall interpretation of the questions.

Six closed-ended questions were asked, including an initial question asking the person whether or not he wished to participate. Each person was then asked if he felt that physical fitness was important to his job, if his current level of fitness was adequate, if he felt the Department's current program was effective, and two questions as to whether he believed that a fitness program should be voluntary or mandatory.

Only one open-ended question was asked at the end of the interview. Each participant was asked to list three incentives that would encourage him to participate in the current voluntary program. Results included are based on answers given more than once.

One-hundred percent, or all thirty-six members, agreed that it is important to be physically fit as a Firefighter/EMT (see Table 1, Appendix 2). However, only twenty-five

percent, or nine out of thirty-six, reported that their present fitness level is “adequate”.

When questioned as to whether or not they felt that the Department’s current program of an annual medical examination, annual physical ability test, and voluntary physical fitness training was effective in preparing them for the demands of their occupation, twenty five members (sixty-nine percent) stated that it is ineffective. It is important to note that one person did not answer the question.

Question One

What are the minimal firefighter fitness standards?

The National Fire Protection Agency (NFPA), a widely accepted authority on all standards relating to the fire service, has two complete documents and part of another that specifically deals with the issue of firefighter fitness.

NFPA 1500 (1997), 1582 (2000), and 1583 (2000) all state that fire departments shall require both annual medical evaluations and provide a physical fitness program. These standards also provide guidelines on how to conduct both requirements.

As stated earlier in this paper, both major organizations representing labor and management (the IAFF and IAFC) developed their Fire Service Joint Labor Management Wellness/Fitness Initiative (1997) that utilizes these same NFPA standards. Both organizations agreed to this document and have thereby created the benchmark standard to which paid fire departments can be held accountable.

Question Two

What motivating factors would promote the Department’s voluntary fitness program?

When asked to list three incentives that would encourage members to become more involved/participate more in the Department’s current program, eight people (over twenty-two

percent) failed to list any. Fifty percent, or eighteen members, listed some form of monetary reward as an incentive. Responses included such items as one-hour paid overtime to come in and workout off-duty, a fitness stipend, a paid membership to the local YMCA, dollars per pounds lost, and having the Department pay for new uniforms for members who lost a significant amount of weight.

Surprisingly, the second-most popular incentive centered on having a set time to workout. Sixteen members, forty-four percent, replied that either having a specific time period on duty, which was honored by Departmental officers, or coming in off-duty for one hour of overtime to ensure an uninterrupted workout would help motivate their participation. This answer section included responses of having to find someone to “cover” their assignments while working out as well.

The third most listed incentive, with nineteen percent (seven members) responding was that if everyone else participated they would be forced to as well. No one came right out and wrote the word “mandatory” but it seems that this is what is being implied.

Fourteen percent (five members) wanted either a personalized workout program or a “trainer” to help steer them in the right direction and keep them on track. It is important to note that this happens to be one of the components of NFPA 1583 (2000) as well as the Joint Wellness/Fitness Initiative (1997).

The last category of multiple-vote incentives was awarding extra time-off (four members, or eleven percent). Answers varied in time increments from hours, to half-days (twelve hours), to entire twenty-four hour shifts. These would be awarded either quarterly, semi-annually, or annually.

These incentives that were listed by members of the Ashland Fire Department were very

similar to responses solicited from members of the Fitness Forums at Firehouse.com. Most often, the given answer was some type of monetary reward. Again replies varied from cash to some sort of prize/award of a gift certificate to a local business or restaurant.

Question Three

Could implementing a mandatory fitness program decrease our Department's chances of incurring any further disability retirements?

When asked, fifty-three percent (19 members) responded that the Department's physical fitness program should be mandatory. The next question posed on the survey was whether or not their answers would change if a mandatory program was "non-punitive". The number rose another four members to make it sixty-four percent in favor of a mandatory program. Two members did not respond to whether or not they would change their original answer.

NFPA 1500 (1997) states that it is required that all members participate in both an annual medical evaluation and a physical fitness program. NFPA 1583 (2000) requires participation by all members as well. The Joint Wellness/Fitness Initiative (1997) is intended to ensure full participation by all personnel by implementing a program that focuses on the individual and is educational and rehabilitative, not punitive. All of this is intended to reduce the probability and severity of occupational injuries and illnesses.

As mentioned earlier in this paper, the American Heart Association (2000, p.17) lists lack of exercise as a major *controllable* risk factor for heart attacks. Several other risk factors, namely obesity, high blood pressure and high cholesterol can be improved with a quality exercise program and thus decreasing a person's chances of suffering a cardiac event.

DISCUSSION

Few fire service personnel will argue the benefits of having a physically fit work force. The Literature Review supports this fact, and results from this research support this claim as well. One hundred percent, or all thirty six members, of the Ashland Fire Department agreed in their survey/questionnaires that it is important to be physically fit as a Firefighter/EMT.

However, if physical fitness is so important and beneficial, then why is it so difficult to implement and maintain fitness programs? As Jay Peacock of the Fort Worth (Texas) Fire Department states in his Executive Fire Officer (EFO) Research Project (1998, pp.24-25):

Nationally, fire departments typically invest more than ninety percent of their budgets on Personnel cost. It would appear logical that sufficient funds should be allocated to protect that investment in human resources.

A similar point of view comes from another EFO Research Project. Albert Sierra (1998, p.8) of Palm Beach County (Florida) Fire Rescue refers to the fact that while most fire departments implement preventative maintenance programs for their vehicles and equipment, few take into account their most expensive resource – their employees.

It is important to note that the survey/questionnaire administered to *all* uniformed members of the Ashland Fire Department was done face-to-face instead of by a mailed document or email. This was done because it has been documented through EFO Research Projects, such as the one done by Ken Riddle of the Las Vegas (Nevada) Fire Department, that the return rate of such documents is poor to marginal at best.

In order to obtain a true census of opinion, this author felt it was necessary to interview every member of the Department face-to-face to ensure a one hundred percent return. Riddle

received only an approximate twenty-two percent return (eighty-three out of 375) on his survey. It is hard to obtain a consensus opinion with only a twenty-two percent return.

However, this face-to-face method has possibly created its own problem. As mentioned earlier in this paper, one respondent answered that he did not wish to participate in the survey, but went ahead and answered the remaining questions anyway. How honest this member was in his responses is unknown.

Question One

What are the minimal firefighter fitness standards?

The National Fire Protection Agency (NFPA), a widely accepted authority on all standards relating to the fire service, has two complete documents, and part of another that specifically deal with the issue of firefighter fitness.

NFPA 1500 (1997), 1582 (2000), and 1583 (2000) all state that fire departments shall require annual medical evaluations and provide a physical fitness program. These standards also provide guidelines on how to conduct both requirements.

Both major organizations representing labor and management (the IAFF and IAFC) developed their Fire Service Joint Labor Management Wellness/Fitness Initiative (1997) that utilizes these same NFPA standards. Both organizations agreed to this document and have thereby created the benchmark standard to which paid fire departments can be held accountable.

According to the Joint Wellness/Fitness Initiative (1997, p.43), components of a successful physical fitness program include:

- Medical clearance to participate
- On duty time for exercise
- Exercise specialist and peer trainers

- The incorporation of fitness into the fire service philosophy
- Fitness evaluations of aerobic capacity, flexibility, muscular strength and muscular endurance
- Fitness self assessments
- Exercise prescriptions

The National Fire Protection Agency (NFPA) defines Authority Having Jurisdiction (AHJ) as: “The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure” (NFPA 1583, 2000 Edition, p.1583-4).

An AHJ’s right to establish fitness standards for firefighters has been clearly established by the courts (Sierra, 1998, p.27). If the fire department is unionized, the AHJ does not have to negotiate the substance of the standards, but does have to negotiate the effects these standards would have on working conditions (Sierra, 1998, p.28). Therefore, it is in the best interest of both Labor and Management to work together to develop a fitness program that will benefit everyone.

Question Two

What motivating factors would promote the Department’s voluntary fitness program?

Any fitness program should be presented in such a way that all personnel will be willing to participate. As research shows, “providing exercise equipment and incentives for fire service personnel increases the degree of participation in a fitness program” (Sierra, 1998, pp. 28-29).

When asked to list three incentives that would encourage members to become more involved/participate more in the Department’s current program, eight people (over twenty-two percent) failed to list any. Fifty percent, or eighteen members, listed some form of monetary reward as an incentive. Responses included such items as one-hour paid overtime to come in

and workout off-duty, a fitness stipend, a paid membership to the local YMCA, dollars per pounds lost, and having the Department pay for new uniforms for members who lost a significant amount of weight.

Several fire departments offer such incentives to their employees. Firefighters in Fort Worth (Texas), for example, are offered free health club memberships by their physical assessment provider.

Surprisingly, the second-most popular incentive centered on having a set time to workout. Sixteen members, forty-four percent, replied that either having a specific time period on duty, which was honored by Departmental officers, or coming in off-duty for one hour of overtime to ensure an uninterrupted workout would help motivate their participation. Some who were interested in designating a set time for physical activity also mentioned the desire to have someone “cover” their assignments during work out times.

This concept of a set time to work out is a component of both the Joint Wellness/Fitness Initiative (1997, p.43) and NFPA 1583 (2000, p.1583-6) Section 2.4.2.1 states that, “Fire departments with assigned work shifts shall allow members to participate during scheduled work times.”

The third most listed incentive, with nineteen percent (seven members) responding, was that if everyone else in the Department participated others would feel forced to as well. No one came right out and wrote the word “mandatory”, but it seems that this is what is being implied. The word “mandatory” was not used, possibly because it has a negative connotation. The fitness program in the Ontario (California) Fire Department is called a *full-participation program*, rather than mandatory, because, “everyone, including the chief, has to participate in the group effort” (Sierra, 1998, p.26).

Fourteen percent (five members) wanted either a personalized workout program or a “trainer” to help steer them in the right direction and keep them on track. It is important to note that this happens to be one of the components of NFPA 1583 (2000, p.1583-6) as well as the Joint Wellness/Fitness Initiative (1997, p.43).

The last category of multiple-vote incentives was awarding extra time-off (four members, or eleven percent). Answers varied in time increments from hours, to half-days (twelve hours), to entire twenty-four hour shifts. These would be awarded either quarterly, semi-annually, or annually.

These incentives that were listed by members of the Ashland Fire Department were very similar to responses solicited from members of the Fitness Forums at Firehouse.com. Most often, the answer was some type of monetary reward. Again replies varied from cash to some sort of prize/award of a gift certificate to a local business or restaurant.

Ultimately, as Albert Sierra quoted in his Executive Fire Officer (EFO) Research Project, “as professionals, it is every firefighter’s responsibility to ensure that he/she has the physical capability to execute the demanding tasks that are required...at the fire scene” (1998, p.34).

Question Three

Could implementing a mandatory fitness program decrease our Department’s chances of incurring any further disability retirements?

Research shows that personnel who regularly participate in a physical fitness program maintain their optimal level of health and fitness throughout their career. As the Joint Wellness/Fitness Initiative points out:

A wellness program is cost effective for the community. Injury rates and sick leave usage can be reduced, thereby controlling overtime costs...Fire departments with

members who are medically, physically, and mentally fit will provide better service to their communities year after year while realizing reductions in disability retirements...(1997, p.5)

Albert Sierra echoes this sentiment in his Executive Fire Officer Research Project:

The cost of medical care for injured firefighters, disability payments, lost time at work, and lower quality of work from less fit firefighters can easily outweigh the cost of developing a fitness program (Sierra, 1998, pp.26-27).

NFPA 1583 (2000, p.1583-8) Section A.2.1.2 suggests a correlation between the following:

1. A proactive approach to health and fitness and a decrease in debilitating occupational injuries.
2. A reduction in worker's compensation claims and a decrease in acute and chronic health problems of fire fighters

The question remains, however, should a program be voluntary or be made mandatory for all employees? When asked, fifty-three percent (19 members) responded that the Department's physical fitness program should be mandatory. The next question posed on the survey was whether or not their answers would change if a mandatory program was "non-punitive". The number rose another four members to make it sixty-four percent in favor of a mandatory program. Two members did not reply to the question whether or not they would change their original answer.

According to the Joint Wellness/Fitness Initiative (1997, p.1), the program is intended to be implemented as a "positive individualized program that is not punitive." However, it also states that any program must "require mandatory participation by all uniformed personnel in the department once implemented" (1997, p.xi). The program needs to focus on the individual and

be both educational and rehabilitative.

NFPA 1583 Section 2.3.2 (2000, p.1583-6) states, “the fire department shall *require* the structured participation of *all* members in the health-related fitness program.” Section 2.3.1 (2000, p.1583-6) also mentions that “*each* member shall cooperate, *participate*, and comply with the program.” NFPA 1500 (1997, p.1500-21) Section 8.32 agrees stating that, “The fire department shall *require* the structured participation of *all* members in the physical fitness program.”²

One study indicated that voluntary programs do not attract those most in need of a fitness program (Peacock, 1998, p.9); whereas another indicates that mandatory programs greatly increase “both the degree of participation and the overall fitness level” (Sierra, 1998, p.28). This same study makes a very poignant comment in regards to voluntary fitness programs:

Consequently, by delegating this responsibility to departmental employees without assigning accountability, upper management has not committed to a system designed to improve firefighter fitness (Sierra, 1998, p.38).

A similar comment comes from Davis & Dotson’s February 1991 article in Fire Chief magazine – “Experience has shown voluntary programs soon become no program” (p.36).

The Ashland Fire Department’s current physical fitness program compares well with the Joint Wellness/Fitness Initiative (1997) in certain components, and poorly in others. The Department does provide a comprehensive medical examination (or physical) for all uniformed personnel that, for the most part, mirrors the exam proposed in the Initiative (1997, Chapter Two). The Department also provides modern fitness equipment and new equipment is added

² Author inserted all the italics in this paragraph for the purpose of placing emphasis on certain key ideas.

each year. These two components are covered under the Collective Bargaining Agreement (CBA, 2001) between the Union and the City. Article XV, Section 15.03 specifically states that:

The City, within reasonable limitations, shall provide the necessary equipment and training for physical training, and shall have each employee first examined by a physician to ensure that the employee's condition permits such physical training.

The Department provides for on duty time for exercise by:

...modify[ing] assignments by covering for each other or other means of assignment rotation (Ashland Fire Department Policy #38 – Fitness).

However, the Department does not provide an exercise specialist or any peer fitness trainers. This is the case, despite the fact that the CBA (2001) between the Union and the City states, in Article XV Section 15.03, that “The City, within reasonable cost limitations, shall provide the necessary equipment and *training* for physical training...” The Department's Policy #38 (Fitness) informs employees:

Do not attempt procedures unless properly trained. Seek assistance from the Division Fitness Training Specialist.

The Ashland Fire Department does not currently have a Fitness Specialist, and has been without one for quite some time.

The Department also does not have a Fitness Committee in place, although the CBA (2001) refers all matters relating to safety and health to the Labor-Management Committee for disposition (Article XV Section 15.02). The Department fails to provide fitness evaluations, fitness assessments, or personalized exercise prescriptions. As mentioned earlier in this paper, all career firefighters were given a Firefighter Fitness Assessment in February of 1999. Each member also received a personalized workout program at that time. However, no follow-up

Assessment was ever scheduled and the Assessment has not been repeated since. This component was mentioned as one of the incentives to increase participation in physical fitness. Fourteen percent of the Department (five members) wanted either a personalized workout program or a “trainer” to help steer them in the right direction and keep them on track of their fitness goals. NFPA 1583 (2000, p. 1583-5) requires the assignment of a qualified “health and fitness coordinator as well as education and counseling. Chapter Three (p.1583-6) is solely devoted to the position of Health and Fitness Coordinator, which is also lacking in the Ashland Fire Department.

The Joint Wellness/Fitness Initiative (1997, p.50) stresses the component of incorporating fitness into the philosophy of the Fire Service. It emphasizes the officer’s role in influencing, educating, and implementing attitudes when it comes to fitness. Even though the Department’s Fitness Policy (#38) allows for time on duty to work out, some officers, and acting officers, not only fail to exercise regularly themselves, but make employees who wish to exercise on duty feel frustrated. They do this by inconsistently honoring, or failing to honor, requested workout times. This, alone, can have major repercussions on the Department’s attitude towards physical fitness. As mentioned previously in this research project, the second-most popular workout incentive centered on having a set time to exercise (sixteen members, or forty-four percent of the Department). In fact, one member responded on his survey/questionnaire that one of his incentives to work out would be if officers actually recognized time to exercise.

Members also complained of the difficulty of finding people to cover their assignments while they worked out. Most find someone to cover, but many report that either no one would cover for them, or they quit asking because of sarcastic comments from other members. This

situation forces them to constantly interrupt their workout and some just give up exercising altogether.

Other members also have the mind-set of feeling guilty, asking someone to cover for them while they exercise. Officers need to reassure each employee that it is okay to ask for coverage for something as important as physical fitness. Perhaps an officer can ease the guilt by assigning coverage themselves or even possibly be the person who covers for another member.

The results of this research have several important implications for the Ashland Fire Department. First, if the Department is going to have written policies, procedures, contracts, and other documents that can be admissible in a court of law, then they must be monitored for compliance and enforced. If deemed antiquated or no longer applicable, then they must be revised or deleted.

The official policy of the Ashland Fire Department on fitness, Policy #38, states that “The health and well being of Division of Fire Employees is a top priority.” This research has shown that fitness is definitely a priority of the Department. Modern exercise equipment has been and continues to be purchased. Every uniformed employee receives a comprehensive medical exam. However, it is far from being a “top” priority. This policy allows for modifying assignments for on-duty personnel to help find time to work out. As was alluded to already, there is little consistency in how this is done. If there was, why did so many members list *a set time for exercise* as the number two incentive motivating them to work out?

Also, the CBA (2001) includes language to the fact that the City is to provide “the necessary ... training for physical training” to go along with the equipment being purchased. Unless this author is mistaken, there is no training being provided. How can the Department expect people who wish to exercise to follow through and do so when they don’t know where to

start? Most do not have the slightest idea of how to exercise correctly or safely. As mentioned by Sierra (1998, p.38) previously in this paper:

... by delegating this responsibility to departmental employees without assigning accountability, upper management has not committed to a system designed to improve firefighter fitness.

The second implication discovered in this research is that the Ashland Fire Department has no fitness database for tracking the overall fitness level of the Department. There is no apparent way of telling whether the current program is effective or not. According to the survey/questionnaire, the overwhelming opinion of the employees of the Department is that their level of fitness needs improvement (seventy-five percent), and the Department's current program is ineffective (sixty-nine percent). Department officials must find a way to obtain the pertinent data from the annual medical exams and do so in compliance within HIPAA regulations.

Some departments consider Worker's Compensation cost as well as on-the-job injuries key measurements for a successful fitness program. Other measurement would involve comparing the number of significant cardiac findings, or other major medical problems, during the medical exam to those of previous years. Another appropriate measure is the comparison of current fitness evaluations to past tests. Of course, individuals are compared against themselves, but one can still obtain an accurate depiction of the overall fitness level of the Department by how much improvement is shown from year to year among all members. This is the method preferred by the Joint Wellness/Fitness Initiative (1997).

RECOMMENDATIONS

The Ashland Fire Department has had a voluntary physical fitness program in place for over ten years. Unfortunately, no definitive evaluation had been conducted to determine its effectiveness. The problem this study addresses is determining if the current physical fitness program is effective, or if changes need to be implemented to make it more effective.

Based on the research gathered from this study, the following recommendations should be implemented as soon as possible:

1. It is recommended that the Department establish and maintain a database to track injuries, injury-related costs, major medical problems identified during the annual medical examination, and results of member's fitness evaluations/assessments. The greatest obstacle of the research was the difficulty in obtaining data, due to federal HIPAA regulations, and the overall lack of available data. There are ways to obtain this data and still be HIPAA compliant. This database should be analyzed annually to identify trends within the Department.
2. It is recommended that the Department re-establish and maintain personalized exercise programs, and provide a Departmental Fitness Specialist and introduce peer fitness trainers. This was attempted back in February 1999. All members were given a Firefighter Fitness Assessment similar to one developed by the Joint Wellness/Fitness Initiative (1997, pp.B1-1 – B1-34), and were also given personalized exercise programs. A follow-up assessment was to be given at a later date, but did not materialize, and there were no qualified personnel available on duty to answer fitness questions or provide guidance.

3. It is recommended that the Department establish a separate Fitness Committee comprised of members of both Labor and Management. This Committee will address all physical fitness issues within the Department including, but not limited to, recommending and maintaining exercise equipment, assisting with the analyzation/interpretation of data from the fitness database, and establishing the necessary logistics required to implement a mandatory fitness program by the end of the current Union contract (2007). This last option should be employed if there is no definitive proof from the fitness database that the new voluntary program is effective.
4. It is also recommended that the Department charge a future Ohio Fire Executive Program attendee with researching the effectiveness of the Department's fitness program after all the above recommendations have been implemented for a period of no less than one year. This will assist the Fitness Committee in determining if the program should become mandatory.

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APPENDIX 1 – SURVEY/QUESTIONNAIRE

Directions: Please read and answer all of the following questions. Your input is very important. Thank you in advance for your participation.

- 1. Would you voluntarily participate in this survey?**

YES / NO

- 2. In your opinion, is it important to be physically fit as a Firefighter/EMT?**

YES / NO

- 3. Do you feel that YOUR present level of physical fitness is adequate or needs improvement?**

ADEQUATE / NEEDS IMPROVEMENT

- 4. Do you feel that the Ashland Fire Department’s current program of an annual medical examination, annual physical ability test, and voluntary physical fitness training is effective or ineffective in preparing you for the demands of your occupation?**

EFFECTIVE / INEFFECTIVE

- 5. Should the Ashland Fire Department’s physical fitness program be made mandatory or remain voluntary for all uniformed personnel?**

MANDATORY / VOLUNTARY

- 6. Would your answer to Question #5 change if the mandatory program was “non-punitive”?**

WOULD CHANGE / WOULD NOT CHANGE

7. List three (3) incentives that would encourage YOU to become more involved/participate more in the Ashland Fire Department's current voluntary physical fitness training program.

1.) _____

2.) _____

3.) _____

APPENDIX 2 – SURVEY/QUESTIONNAIRE RESULTS

Table 1

Survey/Questionnaire Results

	36 Participants	
1.) Voluntarily participate in survey	Y (35) 97%	N (1) 3%
2.) Important to be physically fit	Y (36) 100%	N (0) 0%
3.) Present fitness level adequate/inadequate	A (9) 25%	I (27) 75%
4.) Current program effective/ineffective	E (10) 28%	I (25) 69%*
5.) Mandatory or Voluntary	M (19) 53%	V (17) 47%
6.) Change answer if “non-punitive”	Y (4) 11%	N (30) 83%*
7.) Incentives		
Top five replies*		
Monetary reward – 18 (50%)		
Set time for workout – 16 (44%)		
Everyone participates – 7 (19%)		
Personalized workout program – 5 (14%)		
Extra time-off – 4 (11%)		

* Indicates not everyone answered these questions