A man too busy to take care of his health is like a mechanic too busy to take care of his tools.

The popular proverb above provides a good mantra for members of the fire service. It shows that people who do not look after their health can be in incredible danger. This is especially true when your occupation demands working oneself to physical exhaustion, like that of a firefighter. In the fire service today, there have been reoccurring cases involving the unfortunate fatalities and severe injuries of firefighters due to lack of physical fitness. When reading over such cases as these, it is clear that physical fitness standards are a problem to existing firefighters. In order to serve and protect the community, the fire service must be in top shape, literally, in order to perform its task at the appropriate level. The question then is, ‘How can we prevent or at least minimize the chances of these firefighters, career or volunteer, from getting these illnesses and injuries?’ Many answers and a plethora of legal issues and scenarios come to mind from this question, especially after long question and answer discussions with current Vaughan firefighter Andrew Wong (Andrew.Wong@vaughan.ca). The main concern here is the Collective Bargaining Agreement between the International Association of Firefighters and the city to which they work for. As it stands now, there is no sort of physical monitoring or test implemented within the document. A change in this would make a significant difference. What would happen to firefighters, who are perhaps overweight, that refuse to workout with the fire crew? What should the Union attempt to include in the Collective Bargaining Agreement to protect the firefighters? Another additional helpful idea would be setting up positive fitness programs, like the National Volunteer Fire Council (NVFC) has set up a fitness program for emergency
personnel. They have contributed to the well being of many firefighters, and as their program continues to grow, hopefully their success stories will as well. Another way to improve fitness would be instituting a local program within your fire department, to ensure that all firefighters are up to par. More is needed than simply free weights and a bench. The fire service needs to begin changing its culture to encourage and make physical fitness programs mandatory as a way to decrease the potential for unhealthy firefighters, cardiac events, and unfortunately, deaths.

Let’s begin by using information regarding the cause of deaths of firefighters. According to a study administered by the U.S. Fire Administration, 44% of all firefighter deaths from 1990-2000 were caused by heart attacks\(^1\). The same study showed that many of these firefighters had existing conditions that contributed to the heart attack with arteriosclerosis being most prominent. Arteriosclerosis is a disease that allows fatty material to block or inhibit arteries, which causes blood to move slower. When left untreated, individuals are at an increased risk for suffering from a heart attack. When this is bonded together with the exhausting efforts of firefighting, a lethal combination has been created.

A common response to these statistics would logically be that these people were old and years after being on the job, was much more likely to happen. This may contribute to such a problem; however a recent article proves otherwise. On September 17, 2005, a 22-year-old male Fire Fighter Trainee participated in a bunker gear donning drill and a warm up jog. After jogging about 350 yards, the Trainee suddenly collapsed,

\(^1\) [http://www.healthy-firefighter.org/](http://www.healthy-firefighter.org/)
and suffered a sudden cardiac death. This trainee was only 22 years old. On autopsy, the Trainee weighed 304 pounds and was 72 inches tall\(^2\). This shows that the problem is not necessarily related to the age of the firefighter, but the current shape he or she is in. This brings up the question, should certain limits or tests be done before drills such as these are conducted with aspiring firefighters? This same question was asked to firefighter Andrew Wong, and his response was, “Any such test would have to be agreed upon between the IAFF and the city. As we stand now, this is an unlikely scenario. That being the case, all relevant conditions will be stipulated in the Collective Agreement. Consequences for not meeting the requirement might have been part of the collective agreement as well.” After interpretation of Wong’s comments, it shows gives me the idea that any test pertaining to fitness of an aspiring firefighter would have to go through the union before it is mandated. The union will do what it can in order to ‘protect’ its firefighters.

Speaking of involving the Collective Bargaining Agreement, it should at least be an issue to be considered because firefighters on duty often have large amounts of time in between calls. Additionally, there are nearly 800,000 volunteer firefighters across the United States, most of which have other jobs that are less physically demanding than being a firefighter.\(^3\) A study done at Texas A&M University shows that firefighting is one occupation that is comprised of lengthy bouts of sedentary activity separated by intense periods of very strenuous activity. This means that the cardiovascular system is

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2 http://www.cdc.gov/niosh/fire/reports/face200623.html
3 www.volunteerfd.org/recruitment/articles/245117
often pushed to the limit when responding to calls. There is one redeeming quality however, for the volunteers. The USFA developed a ‘health and wellness’ guide for volunteers to follow, since they are not around the crew during down time. Created in 2003, the mission statement reads, ‘To provide a unified voice for volunteer Fire/EMS organizations.’ This is a great mission statement, and although its intentions are very well, taking it a step further would be excellent. This step would include arranging some sort of agreement between the union and the city. I brought this up with Mr. Wong, and this is what he had to say on the topic:

“Volunteers and career firefighters should have similar, if not identical, responsibilities. The job entails the same amount of physical labor for both. As I have already said, an agreement would have to be reached, and based on past issues; this would not be a simple, short task.”

It is clear that I am not the first one to attempt to administer some sort of official fitness test to employed firefighters. The National Institute for Occupational Safety and Health has outlined some basic, yet quality recommendations for fitness in the fire department. The recommendations are:

- Annual medical evaluation for all firefighters
- SCBA – Use OSHA respiratory standard medical questionnaire and clearance
- Mandatory wellness/fitness program for firefighters
- Annual physical ability evaluation

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A case study was performed by the City of Alexandria, way back in 1979. It was entitled *A Case Study in Physical Fitness: The Alexandria Fire Department*. This study was quite an influential one, as the following information will tell. The reason for the physical fitness test was because there was a study that showed that voluntary firefighters were using 17% less sick leave$^5$. The IAFF’s Firefighter Mortality Report popularized the ongoing problem of job-related deaths, showing that 50% of on-duty deaths were caused by heart-related problems$^6$. This is the reason the union embraced the program; in hopes to lower the number of injuries while increasing the likelihood of getting firefighters in better physical shape. A departmental committee studied the problems associated with creating a mandatory physical fitness program and, along with the Fire Chief and City Manager, requested revenue sharing funds to initiate the program. With this granted, all data was gathered, and each member of the fire department that was being tested was provided with all the information that they wanted regarding their current physical health. The program included simple exercises involving free weights, jump ropes, stationary bikes, flexibility devices and jogging. Based on these results from current firefighters, the department developed more stringent hiring standards that included a physical performance profile that showed the strenuous demands of firefighting operations. In addition, the Alexandria Fire Department was the first to initiate a movement that they would no longer hire any smokers$^7$. The conclusion of the study gave other departments some suggestions as to implementing a similar program. They included:

- Publish the intent of the program which will suppress negative rumors

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$^5$ *A Case Study in Physical Fitness: The Alexandria Fire Department*

$^6$ *A Case Study in Physical Fitness: The Alexandria Fire Department*

$^7$ *A Case Study in Physical Fitness: The Alexandria Fire Department*
• Work with middle management, Battalion Chiefs can eliminate programs they do not understand or support

• Exercise with personnel, show leadership

• Demand accountability, good records do more than take up space

A survey conducted at the end of the testing showed some more interesting results. Some quotes from the firefighters had both positive and negative feedback. “More mandatory requirements on physical abilities” and “Keep this program up” were some positives, while “The program is an infringement on my person” and “It should be voluntary, not forced” were the negatives. The one response I have to the negative side is that off-duty and on-duty workouts are already voluntary. It is the fact there are some people who choose not to keep themselves in acceptable ‘firefighting shape’, which may be a factor in the heart problems and sudden death cases we constantly hear about. The only way we could ensure the chances of bettering the health of a firefighter is by making the program mandatory. Asking Mr. Wong if there is any existing mandatory testing he knows of, he replied, “I don't think there is any fire department right now that has a mandatory program for on-the-job firefighter physical fitness training. Only talks and ideas so far have been said, like the ones you have told me about (referring to previous talks in the interview).” Upon further research, Ohio has issued regulations requiring fitness programs. The Bureau of Workers Compensation, Division of Safety and hygiene proposed fire departments to “establish a health and wellness program that enables members to develop and maintain a level of health and fitness to safely perform their
assigned functions.” This is definitely a step in the right direction, but unfortunately has not developed the interest it needs in order to become popular.

The last thing that must be discussed regarding the above program is that a retest was conducted one year later, with very positive results. Body composition and neuromuscular efficiency were the most notable benefactors, with an average of 11 pounds of fat loss with an increase of 8 pounds of lean mass. Some participants lost up to 30 pounds! I believe more studies such as this one should be conducted in the fire department. It can be seen as a stepping stone towards increased physical fitness, and therefore increased occupational performance. Once again, I brought this issue up with Mr. Wong. I referred him to the *Weimer v. City of Baton Rouge*, 915 So. 2d 875 (La. App. May 6, 2006) case about initiating an annual program without the approval of the Municipal Fire and Police Civil Service Board. I asked him if there should be a similar annual performance test conducted within the fire department. His response was, “I would suggest a test every two years.” His reasoning behind suggesting it every two years is because with an annual program, it is hard to implement such a stringent program in its early, developing years. If made every two years, the union would be more willing to accept the proposal, as it provides considerably more protection. After analyzing his idea, I would agree that a test every two years would be a good start to the acceptance of the reality of the physical fitness problem.

Another study was conducted by Justice Institute of British Columbia, showing the need for health and wellness within the fire department. This was a more recent study,

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9 *A Case Study in Physical Fitness: The Alexandria Fire Department*
conducted in 2004, with published results in 2005. One difference in this study that
comes to mind is not only the daily rigors of the firefighting environment, but they
include the involvement of their gear. The nature of their firefighting clothing does not
allow sweat to evaporate, therefore increasing heart rate, air consumption, and core
temperature. They must also work at maximal intensity with little or no warm up time.\textsuperscript{10}
The name of this program was the \textit{Career Fire Fighter Pre-Employment Certificate}
Program. While conducting similar physical exercises to the Alexandria case study,
some of the results were as follows:

- A short term exposure to heavy work in a hot environment will not endanger a
  healthy firefighter
- The fire gear significantly increases physiological stress during work
- A high level of physical fitness is required for a firefighter to tolerate the
  physiological demand of working in a hot environment. High level of fitness
  will reduce the amount of physical stress.

This study is one of the many that shows that a firefighter who is in better shape can
perform their tasks at a higher level. This issue though, is participation in such a
program. These subjects are only pre-firefighters, so it does not address the problem
discussed throughout the paper. Yet, a similar program is being pushed harder and harder
through Toronto Fire by Captain Terry Buckley. Via a quick email exchange, Buckley
said that this program is “rather new, and its purpose is to ensure the health and wellness
of firefighters in Toronto.” She has yet to involve the Collective Bargaining Agreement
and the Union, meaning that it is still a ways away from becoming mandated. She

\textsuperscript{10} Carter, James B. Health and Fitness in the Fire Service. Justice Institute of British Columbia. British
Columbia, 2005.
believes that going through the latter party is going to be the toughest part of implementation, but can see it being successful in the future. Mr. Wong had a similar response as well, which led me to ask him what he believed could be done about the recent fatalities due to poor physical fitness. His answer was “Firefighters need to be educated about their occupational health hazard, i.e. sudden physical exertion. Fire departments need to encourage physical fitness training at the fire hall and also off-duty.” This is very true. The union must realize that it is losing employees for a plethora of reasons, and a physical fitness program can minimize these fatalities due to the number of reasons listed above. If the union refuses to negotiate, the numbers of fallen firefighters will continue to occur. Many cities are doing their part, and it is time for the union to follow suit.

One final issue that needs to be brought up is the cost issues associated with initiating such tests. One thing is clear; there will need to be more funding to the fire department if a mandatory physical fitness program were to be implemented. I asked Andrew Wong what the additional costs to the department would be if such a test were implemented. His answer was, “Additional costs would include staff cost for physical training instructors, and a one-time cost for procurement of training equipment. Future cost for building exercise room would also be needed.” Assuming the tests would be implemented, money for this equipment and instructors would have to come from somewhere. The most likely scenario would be coming from the taxpayers. While a slight increase in tax may not be a popular idea, I think that the increase goes towards a great cause, and taxpayers should embrace the raise and realize the increase is for their own safety. A way to start out a local program could be done utilizing fundraisers. Not
only will it provide some money for the department, but it will be a great chance to get to know their community. The union may believe that since firefighters now have to perform up to a standard, an increase in salary should come about. I agree with this notion as well, but again, the fire department would be back at square one, looking for funding. This is the biggest road block when instituting anything into a public agency. Money is the hardest resource to find, and typically is the main reason programs like the one discussed here, cannot be implemented.

Thus, with all the legal issues at stake, and separate parties with different intentions, it is clear that fitness and health and wellness programs are on the way to becoming more popular and eventually implemented, but have rarely done so. It is clear that if any of these above suggestions became mandatory requisites today, two things would happen. For one, the department would most likely be in a much better overall shape, providing greater service to the community. Second, the union would get involved instantaneously, demanding that nothing requires its workers to go through these tests. Overcoming all of the aforementioned obstacles such as funding, participation and privacy issues; that is the first step needed in order to get the snowball rolling. Once in motion, hopefully the union will realize since 50% of firefighter deaths are heart-related, that something needs to be done to the physical shape of firefighters. Personally, I am behind Captain Buckley’s program and hope that it catches on in Toronto. As an aspiring firefighter, I would not want my life to be in the hands of a man or woman who is not physically capable to handle some short, strenuous physical activity. I want my partner to be in as good shape as I am, so that we could depend on each other in time of need. If progress continues, hopefully that will be the case across fire departments worldwide.


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