



How a Fire Department Climbed the Ladder to Health in 90 Days

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Health & Wellbeing of a Firefighter

It has been well documented that industrial athletes such as fire fighters are at great risk of health challenges related to their specific line of work.

The Fire Service Joint Labor Management Wellness Fitness Initiative – Third edition states that **“High levels of stress, intense physical demands, arduous work, and short and long-term exposure to chemicals and infectious disease contribute to heart disease, lung disease, and cancer;”** which are the three leading causes of death and occupational disease disability.” The BC Medical Journal May 2011 quotes the Firefighters’ Occupational Disease Regulation which lists the following nine cancers as prescribed occupational diseases causally related to the occupation of firefighting: Non-Hodgkin’s lymphoma, leukemia, ureter, testicular, bladder, colorectal, brain, lung, and kidney.



Anxiety, depression, and Post Traumatic Stress Disorder (PTSD) are rampant due to the nature of the calls as first responders. Situations that elicit an acute, intense stress response are repeated in a chronic, long term fashion. The human body was never meant to operate at such high adrenalin levels for these extended time periods.

To make matters worse the physical demands placed on firefighters are far greater than the average worker experiences. Low back injuries, sprains and strains account for 42% of line of duty injuries according to the USFA 2007 Fatality Report.

As a profession, fire fighters are already behind the eight ball when it comes to their personal level of health and wellness.



The Oak Bay Fire Fighters identified a need and desire for a holistic Wellness Fitness Initiative (WFI) in their department. Tailor Making Health had the expertise to facilitate a tailor made comprehensive online wellness program specific to the needs of the Oak Bay Fire Department (OBFDF).

Once we had buy-in from the department including leadership and the union, as well as stakeholder and budgetary support from the municipality of Oak Bay we had the green light to start.

The journey began June 2014

First things first...Establish a baseline

In early June 2014, each fire fighter completed a comprehensive health risk assessment (HRA) prior to starting the program.



The HRA measured functional fitness levels, physical measurements (including height, weight, and muscle mass), and lifestyle practices. The lifestyle practices were assessed via a **questionnaire that screened for nutritional habits, movement patterns, and psychosocial factors.**

This pre-screening allowed the department to establish its baseline and served as a wake-up call for individual fire fighters as well as for the department.

Initial averages for Health Risk Assessment (HRA) and fitness testing scores across the platoons were as follows:

PRE PROGRAM HIGHLIGHTS AND RESULTS

	Run/Walk 1.6km	Squats (to failure)	Push-ups (to failure)	Plank (to failure)	HRA (0-100)
Departmental Average	7:19	114	42	1:37	59

As a department the initial average HRA score was **59/100** and reflected the need for improvement across the department.



“My daughter is excited to help me with the recipes. It feels great to be such a positive role model for her.”

“This is just the kick start my wife and I needed.”

June 22, 2014 marked the official kick off of the 90 day online program

Prescription for Success

- ✓ **100% buy-in & participation**
- ✓ **Shift structure changes**
- ✓ **Healthy Rivalry**
- ✓ **Health Leaders**

The on-line program design was able to offer each fire fighter a means for growth regardless of their initial health scores. It also met the specific program requirement for individual confidentiality. It provided the strategy of enabling all members to ‘rise with the tide’ in that the majority of recommendations were beneficial to all members of the department. By delivering the material via an on-line format, the program allowed the department to maximize results while meeting budget restrictions.

Leadership Buy-in & Participation

Having all members of the OBFD leadership team from the Chief and Deputy Chief to the Assistant Chiefs participate and model the way made it even easier for the rest of the department to buy-in to the program. The “we are all in this together” mentality worked great.



Photo credit: Christine van Reeuyk, Oak Bay News

Shift Structure Changes

Day shift schedule built in one hour dedicated for fitness in the morning. All members of the platoon were then able to work out together.

Night shift schedule changed to incorporate an earlier meal time so that fire fighters weren’t waiting until much later in the evening to eat a meal. In the past this would have led to overeating and poor nutritional choices, and also adversely affected sleep patterns.

Cooking meals together on the night shifts as well as on the weekend day shifts meant that the fire fighters could help hold each other accountable for their nutritional choices.

Such changes to the structure of the shifts made incorporating healthy habits such as being physically active and eating well more of a simple routine both on and off the job.

Healthy Rivalry

A healthy dose of competition amongst crews also helped to keep momentum going. Cross platoon challenges continue to be key to the sustainability of the program.

Platoon B took it upon themselves to create videos documenting their journey over the 90 days to serve as an incentive to increase competition as well as build camaraderie amongst the department.

Platoon Health Leaders

Each platoon had a firefighter who took on the Platoon Health Leader (PHL) role. They were the primary interface between Tailor Making Health and the platoon. They played a critical role in modeling the way for their platoon members and in advocating for the program and its sustainability.

September 22, 2014 marked the end of the 90 day program culminating in a follow-up HRA to measure results.

The Results are in...

Every fire fighter demonstrated improved scores on nutritional intake, exercise habits, and mental health.

Follow up HRA tests revealed a number of positive results for each individual fire fighter.

Sleep quality and length **improved from an average of 5 hours per night to 6.5 hours a night**. One to two hours might not sound like a lot yet over time what this means for overall function, immunity, and life satisfaction is significant; especially for a shift worker!

The Oak Bay fire fighters are less stressed and are enjoying life more; both on the job and at home.

“It was so inspiring to see those who never worked out in the past in the gym and working out with us.”





“Everyone seems happier overall; less stressed.”

“There is increased cohesion and camaraderie.”

The following table represents a summary of the departmental scores (averages based on all personnel):

OBFD 90 Day Lifestyle Plan Quantitative Scores

OBFD	Pre 90 day	Post 90 day
HRA score total (a high score is desirable)	59	77
Lifestyle Risk Factors (nutrition, movement patterns, psychosocial factors) (a low score is desirable)	60	33
Allostatic Load Risk Rating (how FF bodies have to adapt to lifestyle habits) (a low score is desirable)	25	16
Quality of Life (a high score is desirable)	69	82
Functional Fitness Testing	Pre 90 day	Post 90 day
Run/Walk 1.6km	7:19	7:04
Squats*	114	168
Push-ups*	42	51
Plank*	1:37	1:55

*Pre 90 day averages have been corrected for maximums that were put in place for the post 90 day fitness testing (squats capped at 200; push-ups capped at 100; plank capped at 2:00).

In just 90 days the OBFD:

- ✓ Improved overall HRA scores by **31%**
- ✓ Reduced lifestyle risk factors by **45%**
(almost half)
- ✓ Reduced allostatic load risk rating by **36%**
- ✓ Improved quality of life by **19%**

Sick time for 2014 is down 40%

On average each fire fighter reduced their annual sick time by 4.4 days, despite the program only being introduced halfway through the year. This resulted in a \$33,000 saving in overtime budgeting. **For a department of 26 this is outstanding!**

The evidence is clear that **members of the OBFD are healthier and happier**. All members are now at reduced risk of injury and health challenges both acutely and chronically.

What they have learned regarding how they eat, move, and think has also made a positive impact on their families.

If current lifestyles are maintained and continue to improve all members of OBFD will be able to serve their community with an even higher standard of excellence and these benefits will continue to spill over into their personal lives and their future.

A win/win result for all involved!

If you are interested in realizing similar, or **BETTER**, results and creating a tailored health and performance plan for your department or organization contact Sara Wegwitz RN from Tailor Making Health.

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Platoon Highlights

“Eating healthier together.”

“Meals changed as did our portion and plate sizes.”

“Eating healthier at work meant eating healthier at home was easier.”

“Food policing; which was good as it kept us all accountable.”

“Exercising together; everyone bought into it.”

“Increased competition; high fives.”

“Increased energy. No more late afternoon slumps.”

“More focus.”