



Firefighter Clark Clifford

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## IAFF Occupational Health

The Professional Fire Fighters of Utah Convention was held on April 24-26 with Ogden Local 1654 hosting. The format was similar to previous years with a training day followed by 2 business days. Rather than just recapping all the speakers and topics I want to share my thoughts on Dr. Phil Jiricko's presentation which was entitled Fire Fighters & Heart Disease: Risks & Screening. Dr. Jiricko is the medical director for WorkMed and specializes in occupational health.

Sudden cardiac death accounts for 49% of our line of duty deaths. This figure includes full-time and volunteer firefighters. Now compared to police 22%, EMS alone 11% and all other occupational industries 15%, we are outliers.

As part of our medical physicals our blood work is analyzed, vitals checked, cholesterol obtained, weight measured, and EKG read. So why are we still having sudden cardiac LODD's? Let's take 2 identical twins with the same height and same weight. They've both been cleared during their annual medical physical. Now we ask them to run a 1½ mile physical test. They both cross the finish line at the same time. Twin 1 has HR of 120 and is slightly sweating; Twin 2 has a HR of 180 and looks near death. What have we proved by this test if coming in under time is the only qualification? Similar scenarios have played out in NIOSH reports where a firefighter passed his annual medical exam and physical test, only to suffer a heart attack on a structure fire.

Dr. Jiricko stated that his goal is to give every firefighter a fitness number at their medical physical. Based on 2013 National Fire Protection Agency (NFPA) 1582 and the International Association of Fire Fighters (IAFF) Wellness/Fitness Initiative (WFI) Submaximal Protocol we can give every firefighter in our department a fitness number or MET (Metabolic Equivalent of Task) score. NFPA states that a MET of 12 is optimal to performing the duties of a firefighter. Dr. Jiricko would like to see us in the 13 and above range. One reason he's in favor of this test is it doesn't require you to reach your maximal heart rate. Another reason, it's inexpensive to perform.

For those of you curious about what your fitness number is right now. You can have it in less than 18 minutes.

Our Life Fitness treadmills at each station are the same treadmills the IAFF and NFPA recommend for performing the test. Until Polar chest heart rate monitors can be purchased you will have to use the treadmills heart rate hand grips (little annoying but accurate). Press the fit test button until WFI submax protocol comes up, press enter, and enter your weight in pounds, height in inches and age. You will then be given your submaximal heart rate. The treadmill will increase speed and slope per the following chart automatically.

Time	Speed mph	% grade
0:00 – 1:00	3	0
1:01 – 2:00	3	0
2:01 – 3:00	3	0
3:01 – 4:00	4.5	0
4:01 – 5:00	4.5	2
5:01 – 6:00	5	2
6:01 – 7:00	5	4
7:01 – 8:00	5.5	4
8:01 – 9:00	5.5	6
9:01 – 10:00	6	6
10:01 – 11:00	6	8
11:01 – 12:00	6.5	8
12:01 – 13:00	6.5	10
13:01 – 14:00	7	10
14:01 – 15:00	7	12
15:01 – 16:00	7.5	12
16:01 – 17:00	7.5	14
17:01 – 18:00	8	14
Recovery Phase		
0:00 – 1:00	3	0
1:01 – 2:00	3	0
2:01 – 3:00	3	0

Once you've reached your submaximal heart rate for 15 seconds during the test, the machine will automatically go into cool down mode. The test will shut off after 18 minutes if you haven't reached your submaximal heart rate. (Note: Most people will not go 18 minutes) A three minute cool down period will follow and during that time it will calculate your time, VO<sub>2</sub> Max, and your heart rate after the first minute of cool down. VO<sub>2</sub> Max is the maximum capacity of an individual's body to transport and use oxygen during incremental exercise, which reflects the physical fitness of the individual. Divide the VO<sub>2</sub> Max by 3.5 and this will give you your MET score.

Most of the guys at Station 81 on A Platoon have performed this test and feel like it's a good starting point for our individual physical fitness goals.

I'll make NPFA 1582 available in the reading room of ninth brain if you would like to refer to it. The Treadmill WFI Submaximal Protocol is referenced in Appendix C.



**Firefighter Blake Edwards**

## High School Intern Graduation

I would like to take this opportunity and personally thank all members of Lehi Fire Department for their work with the High School Internship Program. This internship was recently reorganized and was a very big success for both the high school students and the firefighters/crews.

This last semester we had two students from the high school. These students were interested in our careers and day to day operations of the fire department.

Both students expressed great enthusiasm throughout the semester and made life long memories/friendships with many of our firefighters. **This program would not have been a success if it wasn't for all the firefighters of LFD!!!** Both students shared with me their thoughts and feelings of our department. I know these students shared nothing but positive experiences with their families, extended families, neighbors and friends.



As Battalion Chief Howard stated "The intern program provides a beneficial learning

experience for the student and a greater awareness and knowledge of various fire department functions and it also provided experiences to enhance the development of the student's talents and career goals."

The students were assigned a workbook containing information about fire service history which, included specific information about LFD. It was a great tool to engage students who had missed fire crews that were already on calls at the time of their rides, or due to time restraints couldn't commit to extended duties of daily fire crew responsibilities.

The students also had a chance to perform a vehicle extrication. They were able to perform a "B-Pillar" blowout, "roof removal" and "jack the dash exercise." This extrication was performed in front of family members with assistance of on duty fire crews.

There are many specific members of LFD who deserve recognition. (hopefully you know who you are.) I want to thank those that helped me with the program on all levels.

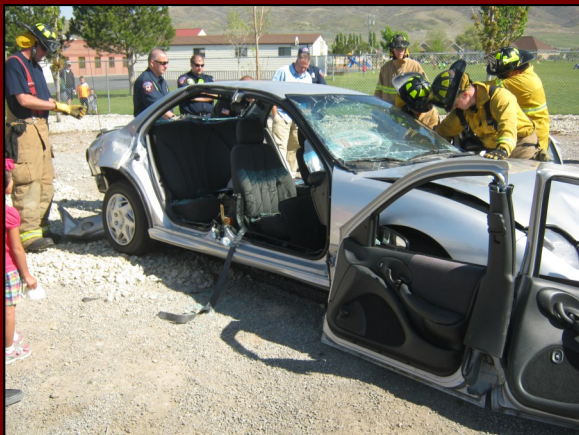
So enough rambling....**THANK YOU!!!!!!**



Megan Kaye

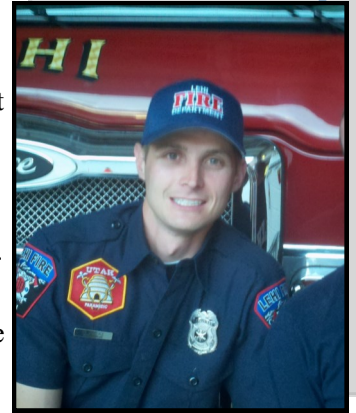


Trent Hutchings



# Featured Call

On May 6, 2013 at 1652 hours Engine 81 and Ambulance 81 were dispatched to a fall patient at 1060 N 1710 E where a new home was under construction. The patient was part of a crew working to pour concrete for the foundation of the home. He was on top of the foundation forms assisting with the concrete pumper truck boom when the accident occurred. The patient was thrown upward and when falling slammed into 2 x 4 bracing which was supporting the form, he fell approximately 12 feet eventually striking his head on the concrete footings.



**Firefighter Ryan Rieske**

He was lying between the footings and the dirt sidewall which formed a trench spanning about 3 feet wide and 8 feet deep.



En route to the scene Engine 81 called for a helicopter to respond and requested Battalion 81 & Tower 82.



Station 81 and Battalion 81 arrived to find the patient being cared for by the workers on scene. The patient was unresponsive with snoring respirations; he was also bleeding from a laceration to his forehead. A quick trauma assessment was performed and C-spine precautions were taken. The patient was administered O2 and placed in a C-Collar. He was secured on a backboard and extricated from the trench using ramps that were previously in place for the construction workers. He was then transferred to the back of A-81. Tower 82 arrived and assisted with patient care. The patient's respirations were assisted with a BVM and two 16 gauge IV's were established. An advanced airway was not possible due to the patient clenching his mouth shut. He was placed on an EKG and vital signs were monitored. Lung sounds were clear and we continued to assist respirations until Life Flight arrived. Upon arrival of Life Flight the patient was sedated and paralyzed with medication which allowed a King Tube to be inserted for his airway. He was packaged and transferred to Life Flight's helicopter. Life Flight delivered the patient to Utah Valley Regional Medical Center.

The report back from Life Flight stated the patient suffered from a Basilar Skull Fracture, Maxilla Fracture, Parietal/Temporal skull overlap, Subdural and Arachnoid brain bleed, C7 cervical fracture, and a fracture to the lumbar spine. He is still being treated at UVRMC where his recovery outcome is unknown.

**Battalion 81**

Chief Howard

**Engine 81**

Shad Hatfield

Randy Wells

Bret Fraser

**Ambulance 81**

Rob Morley

Ryan Rieske

**Tower 82**

Captain Jake Beck

Trent Stanley

Cory Taylor

Weston Adams



<http://www.facebook.com/LehiFireDepartment.com>



**Captain Jake Beck**



**Firefighter Trevor Dorton**

## Occupational Athletes

As professional firefighters we're occupational athletes. Our job/profession requires us to be "fit". Right now you're saying, "I exercise every day, I should be fit". So why am I not in much better shape than everyone else when called upon to do my job?

If we look into the research done on the metabolic demands of various tasks, firefighting as a whole places the same metabolic demands (12 METs [metabolic equivalent task]) on the body as Navy SEALs experience on a combat dive and professional boxers do in the ring during a fight. This conclusion is based on the research of Barbara Ainsworth of the University of South Carolina, and documented in the "Compendium of Physical Activities." The fact of these metabolic demands is acknowledged by the NFPA in their standards 1582, *Standard on Comprehensive Occupational Medical Program for Fire Departments*, and 1583, *Standard on Health-Related Fitness Programs for Fire Department Members*. Our members should be assessed annually as part of a department physical for their ability to exercise to at least 12 METs without any sign of cardiac compromise. Here's the thing, that treadmill test is conducted in shorts and gym shoes in a controlled environment where our bodies are not under the same stress as they will be on the fire ground. Also, the MET test is only looking at cardio-respiratory endurance; we all know that the fire ground demands more of us than just our metabolic capacity.

The fire ground challenge for us is to deal with heat stress, the effects of sympathetic nervous system activation, the aforementioned metabolic demands, and reduced mobility because of our protective ensemble; also, we are often forced to work from mechanically-compromised positions that cause joints and connective tissue to be loaded or stretched in a manner that is anything but ergonomic. How do we know this to be the case? The U.S. Fire Service reported an average of 38,015 fire ground injuries per year from 2001 to 2010. The highest reported number was 44,210 in 2006 and the lowest 32,205 in 2009. By comparison from October of 2001 until August of 2008, the whole Department of Defense reported 30,568 members wounded in action.

I have heard this comment throughout my career in the fire service and it drives me nuts..."I know I am not in good shape but I am capable of doing the job" My question is, how are we defining "capable" of doing the job? Is capability defined by the fact that you can fit into a pair of bunker pants? Is it defined by the fact that you can use up a "30-minute" SCBA cylinder in nine minutes? Is it defined by your ability to keep moving even though your heart rate is at 215 beats-per-minute? I am not calling anyone out specifically. I am asking the questions of all those who tell me some variation of "I know I'm not in good shape but I am capable of doing the job."...wait, I'll answer the question for you. You increase the risk that this trade will injure or kill you. We cannot eliminate all risk; what we can do is reduce risk. While fitness is only one aspect of this equation it is the easiest to measure. Hop on the treadmill and do a MET test. Can you maintain 12 METs? How about 16? We don't always operate at the minimum level, and increased capacity is a buffer to becoming compromised. Can you dead lift and drag the weight of your heaviest co-worker in full gear and soaking wet, and drag that weight while in zero-visibility conditions? Can you perform 20 minutes of physically demanding work in an SCBA, take a ten minute break, and get another 20 minutes of work in? If you answer no to any of these questions then there is a hole in your game. I can state right now there

are members of my department I could not rescue unassisted if they got into trouble. I've pointed this out to them. I spend anywhere from six to ten hours a week in the gym preparing myself, but I'm not going to have the ability to dead lift them and drag a 300 lb (or more) unconscious firefighter. I know, and my wife knows, that means I am going to die right next to them if it ever came down to it because I will not leave them, and unable or not, I won't stop trying. So, what do I do? I work to minimize the risks. I get in the gym, I work on my SCBA and ladder skills, I study my district, and I prepare myself mind, body, and soul for those challenges.

We have only begun to scratch the surface of the importance directly related to our vocational fitness requirements. At times it is hard for me to stay motivated. My captain recently purchased, for his entire crew, a fitness program known as the Fire Service Warrior. This is a 21 day program for personal and professional development. If you haven't already, I strongly suggest you look into this program. It instills a desire to better yourself and those around you, to be prepared to overcome the dangers and obstacles we are faced with on the modern fireground. Part of the introduction of FSW- "Our Mission simple: Forging Fire Service Excellence. That's why we take classes, struggle in the gym, and sweat on the fire ground. The FSW is a resource, an opportunity, and a community for firefighters who are prepared to thrive on the fireground so they can protect the lives and property of their neighbors."

Navigating our way through this program as a crew has been extremely beneficial in a lot of ways. Personally one of the first things I realized was how quickly I had forgotten how incredibly difficult it is to work in full PPE including SCBA. I am not talking about donning and doffing, I am talking about real, hard,



WORK! Another important benefit was the crew cohesiveness that was created, we all sweat, struggle, and a lot of times wish for it to be over together. We recognize capabilities as well as inabilities, and find ways to improve. We became more of a team after every assignment.

My challenge to you is find a way to improve yourself, as well as those standing next to you at the start of every shift. "Cultural change begins with behavior and the leaders who shape it" (Vandergriff 2006).



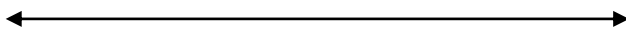
## JUNE BIRTHDAYS

Jon Tills - June 6th

## Lehi City Fire Department Vision Statement

The Lehi City Fire Department will be the premier fire department in the region and dedicated to excellence in serving our community guided by principles of Dedication, Honesty, Integrity, Professionalism, Knowledge and respect for all.

### **Our Core Values**



Dedication  
Integrity  
Professionalism  
Honesty  
Knowledge



## **Call Totals for the Month of May...**

**Station 81**


**Fire: 35**  
**Medical: 81**  
**Total: 116**



**Station 82**

**Fire: 27**  
**Medical: 76**  
**Total: 103**

# June 2013

	<b>Mon</b>	<b>Tue</b>	<b>Wed</b>	<b>Thu</b>	<b>Fri</b>	<b>Sat</b>
						1 Bountiful Baskets Food Co-op - station 81 & 82
2	3	4	5	6	7	8 Bountiful Baskets Food Co-op - station 81 & 82
9	10 Payroll Training - Truck Operations	11 Training - Truck Operations	12	13 Officers Meeting Station 82 8:00am Fire Association Convention—	14 Training - Truck Operations	15 Bountiful Baskets Food Co-op - station 81 & 82 Park City
16 Fathers Day 	17	18 Training - Truck Operations	19	20 Training - Truck Operations	21 Training - Truck Operations	22 Bountiful Baskets Food Co-op - station 81 & 82
23	24 Payroll	25	26	27	28	29
30	Lehi City Round-Up Week					