

# February 2009 Newsletter

## How Many Times Do We Have to Be Told?

"A ceiling collapses killing two firefighters," "An unseen propane tank explodes during a fire killing one firefighter and injuring one other," "A driver loses control of his vehicle colliding with an accident scene killing the rescue crew," "Firefighter dies of heart attack while on duty;" These headlines are all tragic and all too familiar to most of us. Most of them we chalk up to part of the job. What we do is dangerous and sometimes we die doing it. I'm not going to debate or discuss what could have been done or what we are doing to prevent these headlines; with the exception of one.

## Do You Have the Courage to Be Safe?

### Georgia Has the Courage to Be Safe!

As firefighters we run the calls, we perform the public services, we go out of our way to help the citizens and we never ask for anything in return or praise. But, we need to celebrate our successes, our forward progression and the positive changes that we have accomplished. It's very hard work to change anywhere, especially in the Fire Service, but when we do and we talk about it, we create that positive momentum and touch that affective domain thing we learned about as instructors.

» Read: [The Full Article](#)

### Kansas Has the Courage to Be Safe!

*Everyone Goes Home®* Region VII Regional Advocate Michael Petroff presented a condensed Courage to Be Safe<sup>SM</sup> class to the Kansas State Firefighters Association at a seminar in Salina, Kansas on January 17, 2009. Approximately two hundred fifty firefighters from across the state of Kansas attended the seminar. The *Courage to Be Safe<sup>SM</sup>* presentation focused on the implementation of a selection of the *Everyone Goes Home®* [16 Firefighter Life Safety Initiatives](#).

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## Saving Firefighter Lives Through Public Education

I am as passionate about fire safety education as I am firefighter safety. The reality is they accomplish the same thing. The 16 Firefighter Life Safety Initiatives are in no specific order of importance, but I've decided to focus on #14 now after we experienced six fire fatalities on New Year's Day here in Washington, DC. Across the nation, multi-fatality fires are nothing new. There must be a sense of urgency in the fire service on this issue - enough is enough.

## Not For a Piece of Property

The United States Fire Administration National Fire Data Center reports that "for a ten year period, 1997-2006, 23.5% of on-duty firefighter fatalities occurred at the scene of structure fires." This significant percentage of firefighter fatalities deserves the close attention of every active firefighter in the country.

## Fire Prevention and Safety Grant Application Period Now Open

The application period for the FY 2008 Fire Prevention and Safety (FP&S) Grants opened on February 2. Applications for these grants must be received by March 6, 2009 at 5:00 p.m. EST.

## Take the Fired Up For Fitness Challenge

The Fired Up For Fitness Challenge is an interactive fitness program that allows firefighters and emergency personnel to log their hours of activity and receive incentives rewards as they reach certain benchmark numbers of hours.

## On the Front Line of Heart Research

### Univ. of Buffalo Study: Identify FFs at Risk of on the Job Heart Attacks

Forty-four percent of U.S. firefighters who died on duty in 2007 succumbed to a heart attack, based on data from the U.S. Fire Administration. That figure is twice the number of cardiovascular deaths among on-duty police officers.

» Read: [The Full Article](#)

### Univ. of Arizona Awarded \$1M to Study the Risk of Sudden Death from Cardiovascular Disease in FFs

Half of all line-of-duty (or "on the job") deaths for firefighters are due to sudden, severe cardiovascular incidents such as heart attacks, even though firefighters tend to be a healthy group as a whole since strength and fitness are required for the job.

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# INITIATIVE SPOTLIGHT

Spotlighting one of the 16 Firefighter Life Safety Initiatives each month

**Initiative #6 - Develop and implement national medical and physical fitness standards that are equally applicable to all firefighters, based on the duties they are expected to perform.**

#### More on Initiative #6:

- LSU Fire & Emergency Training Institute: [Wellness Course Addresses Leading Cause of Death](#)
- Illinois Fire Service Institute: [Firefighter Fitness Training](#)

More Information: [16 Firefighter Life Safety Initiatives](#) | Share a Resource: [editor@everyonegoeshome.com](mailto:editor@everyonegoeshome.com)

http://www. **WEB WATCHING**

**[Fire Prevention and Safety Grants Application Tutorial](#)**

» **[Watch the Video](#)** 

**FEATURED Events**

**[2009 Safety Summit](#)**  
Emmitsburg, MD  
March 6-8, 2009  
**Read More:** » **[About the Event](#)**

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**Do you have an suggestion for the newsletter? Tell us about it!** Please send your comments, articles, or news about what your department is doing to keep firefighters safe to **[editor@everyonegoeshome.com](mailto:editor@everyonegoeshome.com)**.

# How Many Times Do We Have to Be Told?

**By Robert A. Mitchell**

**Assistant Chief - Operations, Reedy Creek Emergency Services**

"A ceiling collapses killing two firefighters," "An unseen propane tank explodes during a fire killing one firefighter and injuring one other," "A driver loses control of his vehicle colliding with an accident scene killing the rescue crew," "Firefighter dies of heart attack while on duty;" These headlines are all tragic and all too familiar to most of us. Most of them we chalk up to part of the job. What we do is dangerous and sometimes we die doing it. I'm not going to debate or discuss what could have been done or what we are doing to prevent these headlines; with the exception of one.

In 1994 the National Institute for Occupational Safety and Health (NIOSH) began a ten year study concerning line-of-duty deaths (LODD). At the conclusion of this study there were glaring findings regarding sudden cardiac death in firefighters. Put simply, "Cardiac death is the leading cause of death among firefighters." This conclusion was reached based on a CDC analysis of 1994 to 2004 data from the U.S. Fire Administration. (MMWR.2006; 55:421-448)

The University of Buffalo found that based on further information from the United States Fire Administration, approximately forty-four percent of U.S. Firefighters who died on duty in 2007 succumbed to a heart attack. That figure is twice the number of cardiovascular deaths among on-duty police officers (University of Buffalo NewsCenter). Further, as referenced in Billy Hayes' article in last month's *Everyone Goes Home®* newsletter of the 2008 LODDs currently reported, "the numbers continue to show that heart attacks and unknown illnesses are the leading factor" for LODDs.

Re-quoting from *Everyone Goes Home®* January Newsletter and U.S. Fire Administrator Greg Cade, "The tragic losses of on duty firefighters in 2008 are a reminder of the necessary commitment and efforts by firefighters in all departments across the United States to focus on and improve our operational safety." He goes on to say "We understand all too well that many of these losses are preventable. The USFA remains dedicated to our continuing our efforts to ensure 2009 is a year where we reduce these losses so that firefighters can return home safely to their families and continue to serve their communities." As the United States Fire Administration (USFA) continues to collect and evaluate 2008 LODDs, preliminary estimates indicate that heart attacks and strokes were responsible for the deaths of 50 firefighters (43.8%) in 2008. This shows a decrease from 54 of the 118 (45.7%) firefighters in 2007.

Additionally, as stated in a release from the National Fire Protection Association (NFPA), "The toll of heart disease is a major reason why firefighter deaths have not declined in recent years, even though fewer firefighters die in burning structures (and fewer structures catch fire). An average of 97 firefighters died per year in the 1990's. But since 2000, the yearly average has been 102; with the exception of the firefighters killed during the 9-11 attacks.

OK, now that we've got all the depressing facts out of the way and we know there are some things we just cannot prevent or avoid. Why are we dying from something that we have known as preventable for the last thirty years? Yes, I know there are risk factors that the American Heart Association says are hereditary and yes, there are some risk factors that are mostly unavoidable, but what about doing the things that improve our odds?

You have to ask yourself some questions. Yes, we have all heard them before but the majority of us are not

listening. Ask yourself... Do I Smoke? Do I drink? Do I exercise? Do I watch what I eat and not just what's going in my mouth? Do I get regular check-ups and do something with the findings? Do I take my medication the way I should?

Of course only some of these questions apply to all of us and some of us may not need to worry about any of these questions. To those of you, I say great, you are one of the lucky few. For most of us though, I think I can safely state that we are saying the wrong answer to one or more of these questions.

The American Heart Associations suggest following these three steps in helping to reduce your risk:

- Avoid Tobacco
- Be More Active
- Choose Good Nutrition

For more information on things you can do as an individual visit [ABCs of Preventing Heart Disease, Stroke and Heart Attack](#)

In Florida we are fortunate to have a legislature that understands the risk we face as firefighters and has a presumptive law that is called the [Heart/Lung Bill](#); this bill provides assistance to firefighters with these types of problems. To understand more about this bill visit [Understanding Florida Statute 112.18 - The Heart/Lung Bill](#)



I am privileged to be a part of a department that sees my overall health as a priority. Each individual receives an annual physical paid for by the department. Every two years we have a cardiac/endurance profile done on the treadmill as part of that physical. We have annual blood testing including tests for heavy metals. We also participate in a wellness program facilitated by Train America, Inc. out of Gainesville, Florida. We allow time each day during shift to participate in some type of physical activity to exercise our cardiovascular system.

In closing, this month be the hero you can and should be. Reduce one primary risk you can control; your heart health. It does not make sense to take control of everything we encounter as firefighters and let our health, the most important thing and the thing we can control get away from us.

Be safe,  
Bob

*Robert A. Mitchell, FPEM, IC/PM, BPM currently serves as an Assistant Chief of Operations at Reedy Creek Emergency Services / Fire Department. Serving various communities around the country he started his career in 1980 as a cadet and has never left emergency services. Chief Mitchell's experience includes service with the Dept of Homeland Security, Dept of Health & Human Services, Orange County Sheriff's Office and Reedy Creek as a Firefighter, Dive Medical Technician, Paramedic, Planning Section Chief, Logistics Section Chief, Safety Officer, and Area/Incident Commander. During Chief Mitchell's career he received his Associates Degree in EMS from Valencia Community College in Orlando, Fl., an undergrad degree (BS) from Nova Southeastern University, Ft. Lauderdale, Fl., and is currently working on his graduate degree. Chief*

*Mitchell has also lectured nationally and internationally on a variety of Fire Service, EMS, and Child Abuse issues.*



**Related:**

- » [USFA Releases Provisional 2008 Firefighter Fatality Statistics](#)
- » [Looking Back, Looking Ahead at Firefighter Safety](#)

# Georgia Has the Courage to Be Safe!

By Brian Ward

**Everyone Goes Home® Georgia State Advocate**

As firefighters we run the calls, we perform the public services, we go out of our way to help the citizens and we never ask for anything in return or praise. But, we need to celebrate our successes, our forward progression and the positive changes that we have accomplished. It's very hard work to change anywhere, especially in the Fire Service, but when we do and we talk about it, we create that positive momentum and touch that affective domain thing we learned about as instructors. The beliefs, values, and attitudes inside of all of us are touched when we succeed. So, I would like to share the successes and progression that Georgia has achieved and challenge others to join us in celebrating.

On October 1-2, 2008 we put on two classes entitled "Fully Resolved: Preventing LODDs in Training." The first day was hosted by Atlanta Fire Rescue and the second day was hosted by Warner Robins Fire Department. It is also important to say that none of this would have been possible if it was not for the help of the Metro Atlanta Fire Chiefs Association and the Georgia Fire Chiefs Association. Both of these associations have bought into the [16 Initiatives](#) and believe in them. Tim Dunkle, Fire Academy Training Service Administrator for the Commonwealth of Pennsylvania and Dave Casey, Florida's Chief of Fire Standards and Training gave a great presentation on LODDs that have directly affected them and preventing these types of occurrences from happening again. During the afternoon session Arizona Executive Director and Region 4 Advocate Ron Dennis presented the Version 7 *Courage to Be Safe<sup>SM</sup>* program. People throughout the state joined us, including two from the Alabama Fire College. We greatly appreciate the networking and discussion that took place from all participants. It was truly a success and I would like to share an E-mail that was sent to me not 12 hours after taking this class. The Smyrna Fire Department in Smyrna, Georgia issued the following to all employees in their department:

"Initiative #4 states: 'Empower all Firefighters to stop unsafe practices.' Even though the City has a policy for seat belt use I know that seat belts are not being used on all calls (because I've done it too). As Station Officers it is your responsibility to enforce seat belt use and as Engineers you are empowered to not move the truck if everyone is not buckled in. I would not want to tell a firefighter's children that their father is not coming home because I wanted to be a buddy and not enforce a safety issue. As the Departmental Safety Officer I challenge you to enforce 100% seat belt usage on every call. If you are caught not using your seatbelt, be forewarned that you will be subject to disciplinary action up to and including termination for violating city policy. The Fire Chief has expressed his concern about this subject and indicated that there will be no leniency for violation of the seat belt policy."

That is a very strong statement and just one example of the positive influence that this program has created. We are also in the process of a "Seat Belt Blitz" where we are attempting to receive 5,000 Georgia firefighter signatures on the National Seat Belt Pledge. We are not quite there, but we are getting closer everyday.

The help of the Georgia Fire Academy and [www.FireServiceSLT.com](http://www.FireServiceSLT.com) has been tremendous in all of these activities and we have more to come. The Gwinnett County Leadership and Safety Conference was held January 23 - 25, 2009. Speakers Chief Rick Lasky, Chief John Norman and Chief John Salka were on hand to speak about key items in the fire service.

**Initiative One states:** Define and advocate the need for a cultural change within the fire service

relating to safety; incorporating leadership, management, supervision, accountability and personal responsibility.

Gwinnett County is advocating the need for leadership, management and supervision. But, we can't let it stop here; we have to continue pushing the bar until there are no more LODDs. With the help of my fellow Advocates we will succeed because we will not accept anything less and I hope everyone can join Georgia in this statement.

I would like to thank some of the following key players with incorporating *Everyone Goes Home®* in Georgia. First, Chief Billy Hayes for getting me involved; Georgia Fire Academy Director David Wall, fellow Georgia Advocate Rodney Pickle; Section Chief of Georgia Fire Academy Steve Couch; Atlanta Chief of Training Mike Simmons, long time *Everyone Goes Home®* promoter Chief Freddy Howell; and Region 4 Advocate Chief Rick Larkins. Lastly, I could never leave out Chief Ron Dennis for his countless hours spent in Georgia helping us. Thanks to all, it would not be possible without you.

For free training presentations or information on the Leadership and Safety Conference visit [www.FireServiceSLT.com](http://www.FireServiceSLT.com) or if I can ever be of any assistance, please email me at [brian.ward@gwinnettcountry.com](mailto:brian.ward@gwinnettcountry.com).

# Kansas Has the Courage to Be Safe <sup>SM</sup>

**Submitted by Michael Petroff**

**Everyone Goes Home® Region VII Regional Advocate**

*Everyone Goes Home®* Region VII Regional Advocate Michael Petroff presented a condensed Courage to Be Safe<sup>SM</sup> class to the Kansas State Firefighters Association at a seminar in Salina, Kansas on January 17, 2009. Approximately two hundred fifty firefighters from across the state of Kansas attended the seminar. The Courage to Be Safe<sup>SM</sup> presentation focused on the implementation of a selection of the *Everyone Goes Home®* [16 Firefighter Life Safety Initiatives](#). Various resources for each of the selected Life Safety Initiatives were given and examples of procedures for implementation were discussed. In addition, fifty copies of the Firefighter Life Safety Initiatives Resource Kit Volume 3 were distributed. The Courage to Be Safe<sup>SM</sup> program was requested in an effort repeat the "zero line-of-duty death" statistic experienced by the State of Kansas in 2008.

# Saving Firefighter Lives Through Public Education

By Billy Hayes

Everyone Goes Home® Advocate Program Manager

Courtesy of [FireRescue1.com](http://FireRescue1.com)

I am as passionate about fire safety education as I am firefighter safety. The reality is they accomplish the same thing. The 16 Firefighter Life Safety Initiatives are in no specific order of importance, but I've decided to focus on #14 now after we experienced six fire fatalities on New Year's Day here in Washington, DC. Across the nation, multi-fatality fires are nothing new. There must be a sense of urgency in the fire service on this issue - enough is enough.

***Initiative #14: Public education must receive more resources and be championed as a critical fire and life safety program.***

I can remember taking my very first fire safety educator course about 17 years ago at the Georgia Public Safety Education Center in Forsyth. I came back to the fire station and tried to tell the senior guys about what I had learned. Before I was able to get 30 seconds into the conversation, I was cut off. "That fire safety education \$#%\* is going to put us out of a job!"

I couldn't believe what I was hearing. How could anyone in this profession be so closed minded? Unfortunately, those words still ring the halls and on the apparatus floors of many fire stations today. But 17 years later, we are still losing civilians at an epidemic rate as well as the firefighters responding to those very alarms that could have been prevented.

## Firefighter safety correlation

So how does fire safety education correlate to firefighter safety and the reduction of line-of-duty deaths? Put yourself in the company officer seat for a moment while I set up this scenario.

You are dispatched to a working fire. You are the first company to arrive on scene. As you exit the apparatus, you are met by a resident of the home, and he/she advises you that everyone has escaped safely because of the smoke alarm, and all have been accounted for at the meeting place. The fire is relatively small in size because of the quick exit and early activation of 911. The first priority of life safety has been secured, and your crew can quickly transition into fire suppression efforts. Does this reduce some of the risks to your crew? I know some of you are saying, "Yeah, but that never happens!"

What if you take that same structural house fire, with cars in the driveway, and no information as to whether anyone is home or if they have escaped. You have a life safety concern, a suppression concern, and the fire could be a little more advanced than you can see because there is no information provided. Does this increase the risks that you and your crew face? Does this scenario make it more dangerous than the previous one? *Imagine if I threw a residential sprinkler in the previous scenario.* Can you see some of the correlation now?

Larry Schultz, Assistant Chief of Operations for DC Fire and EMS, sent me an interesting e-mail the other day. He pointed out that while he believes in the mission of the Everyone Goes Home® program, and what we are trying to accomplish, we aren't providing much substance other than throwing out general statements of what needs to change. I happen to agree with him and I admit that maybe I'm just as guilty in my columns. So what tangible information on how to reduce LODDs by fire safety education can I give you?

I'll begin by asking you how many fire safety educators do you have in your department/organization? If you immediately begin to answer this question by trying to think how many are assigned to prevention, then you have already headed down the wrong path. If you respond by saying everyone in the department, then you have the idea. And when I say everyone, I mean everyone. That includes the fire chief to the new recruit.

While I agree that not every firefighter has the ability to go out and deliver a presentation to large crowds, every firefighter can interact with the public on a smaller scale. If the engine company stops by the grocery store and sees an exit blocked, they shouldn't push it off on the fire marshal. Take care of it right then as there is an educational opportunity. Enforcement should be the last of the 3 Es of Prevention. If you go to a house on a routine medical call, how much longer does it take to ask if you can check their smoke alarm? I could go on and on with scenarios such as these, but the point is there are prevention education opportunities just around the corner of most calls.

### So here are some tangibles of what we can do:

- Include fire safety education training at all levels - entry and in-service. While "Stop, Drop and Roll" has saved many lives, the training can be more detailed and interesting. A citizen should never get a blank stare or an "*I don't know*" from a firefighter when they are asked the difference between a [photoelectric](#) and an [ionization smoke alarm](#).
- Make fire safety educator certifications a requirement for promotions.
- Stock fire apparatus with smoke alarms and fire safety literature for on the spot distribution.
- Develop projects that are sustainable and make a difference. Don't design programs that fail or "dump" work on the firefighters. This is a root cause of resentment toward education. Educators and chiefs should seek input from the firefighters as they are the ones who see the problems that exist in the community. Include everyone in the decision making.

If we go back to [Initiative #1 on Culture](#), which everyone likes to blame for LODDs, we could begin to change this by altering our titles from firefighters to fire prevention officers or something similar. We certainly will be tasked with responding to emergencies as needed, and doing many of the same tasks, but what if our job title were different and reflected what the foundation of the fire service should be - prevention and not reaction. I know, I know, I know. What the heck am I thinking? "*Nobody will apply for the job,*" and "*Yeah, don't forget, we'll put ourselves out of a job.*"

So who has the courage to tell Cathy Hedrick, who lost her firefighter son Kenny in a fire from discarded smoking material, that our job is more important than the courage to change in memory of him? Who has the courage to tell Vina Drennan, who lost her husband John of the FDNY in a preventable fire, that our job is more important than the courage to change in memory of him? I absolutely support the notion that we must make adjustments tactically to prevent firefighter LODDs, but if we can eliminate some of the responses, can't we reduce some of the risks? I'm not advocating a weaker or softer fire service, I'm advocating a smarter, safer and more effective fire service to ensure that *Everyone Goes Home®*.

*Billy D. Hayes is the Advocate Program Manager for the Everyone Goes Home® campaign through the National Fallen Firefighters Foundation where he has served as a State and Region IV Advocate. He currently serves as the Director of Public Information and Community Affairs for the District of Columbia Fire and EMS Department.*

*Previously, he was the Chief of Fire Services for the City of Riverdale, Ga., and is past-president of the Metro Atlanta Fire Chiefs Association. He is a graduate of Georgia Military College and the National Fire Academy's Executive Fire Officer Program. Hayes frequently writes and speaks on the topics of firefighter safety and fire prevention. In this column series, he will be outlining the 16 Firefighter Life Safety Initiatives - and what they mean for you and your department. He can be contacted via email at [Billy.Hayes@firerescue1.com](mailto:Billy.Hayes@firerescue1.com).*

# Not For a Piece of Property

By William R. Mora

Everyone Goes Home® Texas State Advocate

Courtesy of [Firehouse.com](http://Firehouse.com)

The United States Fire Administration National Fire Data Center reports that "for a ten year period, 1997-2006, 23.5% of on-duty firefighter fatalities occurred at the scene of structure fires." This significant percentage of firefighter fatalities deserves the close attention of every active firefighter in the country.

Furthermore, if this problem is to be effectively addressed, firefighters must integrate the appropriate type of risk management with incident management at all levels including strategic, tactical, and planning responsibilities. On the scene, there are two ways this can be done. The first is by routinely focusing on two critical factors during the initial size up process. In addition to evaluating the smoke and fire showing on arrival, the size and occupancy of the structure and the need to conduct a primary search, the top concern of every firefighter must instinctively be placed on determining:

1. Whether the structure has an involved basement and
2. Whether the basement fire will expose firefighters to excessive risk

## Enclosed Structures

Certain types of structures referred to as "Enclosed Structures" have an enclosed design that lack readily penetrable means of egress through windows or doors and include structures with basements. This specific and extremely dangerous type of structure is killing firefighters at a disproportionate rate and in multiple ways, such as plunging firefighters through fire-weakened floors.



**NIOSH F2006-26** - In August of 2006, as firefighters initiated a fast attack, two other firefighters conducting a primary search, fell into the involved basement at this structure fire. The floor consisted of a light weight wooden truss system. Structures with involved basements should be considered extremely dangerous and firefighters should avoid a fast and aggressive interior attack across the first floor or a primary search over the vicinity of the fire without initially knocking down the fire in the basement. As history has repeatedly shown, failure to do so may ultimately result in the loss of victims and rescuers alike. Multiple handlines and chain saws staffed by trained and fully protected firefighters will be needed to attack the fire through basement windows, doors or downward through holes cut into the floor from safe exterior positions.

Enclosed spaces such as basements are common and exist in every region of the country but more so in some than in others. It is also quite common for only light smoke to be showing on arrival at these structures when in fact an active fire is involving the basement. This misinterpreted size up factor as well



**NIOSH F2004-05** - The first arriving officer reported light smoke at this row house. While walking across the first floor over the involved basement, for the third time, the officer partially fell through the floor becoming wedged and dying from sustained injuries.



**NIOSH F2000-26** - Firefighters made an aggressive interior attack across the first floor, over the involved basement, at this residence. As the crew advanced to the rear of the home, in zero visibility and hot conditions, the victim died after falling through the fire weakened floor.

as the use of unsafe tactics on many occasions has lead to line-of-duty deaths in states including:

- » [NIOSH F2006-24](#) (Indiana)
- » [NIOSH F2004-05](#) (Pennsylvania)
- » [NIOSH F2005-09](#) (Texas)
- » [NIOSH F2002-11](#) (North Carolina)
- » [NIOSH F2001-16](#) (Ohio)
- » [NIOSH F2000-26](#) (Alabama)
- » [NIOSH F97-04](#) (Kentucky)

To eliminate the risk of falling through a fire weakened floor and into an involved basement, firefighters must forever heed the following warning: If you routinely respond into areas where basements can be found, you must routinely integrate basement risk management into your daily operations before any firefighter takes one step into the structure. This involves automatically conducting a 360 degree walk around of the structure, with a thermal imager if possible, to initially determine if the structure has a basement and whether it is involved in fire.

Basements may be indicated by the presence of basement windows or doors, a slope of the terrain along the foundation line, a drop off along one side of the structure or by a flight of steps leading to the front or rear door. You may also determine if the structure has a basement by asking an occupant who has exited the structure, by referring to pre-fire plans and as a last resort by cutting inspection holes through the floor from safe exterior positions while charged hand lines are standing by to aggressively attack any fire that blows out of the opening made. Firefighters are familiar with making inspection holes by pulling ceiling to search for and prevent fire in the attic space from falling behind and trapping advancing firefighters in the structure. For safety, the time has now come for firefighters to manage floors over basements in the same manner they manage attic spaces. This precaution must be taken because firefighters can no longer gamble with their lives determining whether a fire weakened floor over an involved basement is strong enough to support

the weight of advancing firefighters.

If smoke or fire from a basement is detected, everyone on the fireground and enroute must immediately be advised by radio or on arrival and no one should be allowed to enter the structure at the outset or thereafter if the floor has been determined to be unstable. For safety, the assumption must also be made that the floor is about to collapse until proven otherwise. Firefighters must also bear in mind that although a light weight wooden truss will

collapse suddenly at any time after the trusses have been exposed to fire, any wooden beam of any dimension supporting the floor will also eventually burn through and cause the floor and furnishings to collapse when exposed to fire for a sufficient amount of time. And that time may have transpired well before your arrival. Since the traditional, quick and aggressive interior attack does not always work in these types of structures and in fact repeatedly result in tragic outcomes, integrate risk management into your operations. Train your firefighters in the use of safe enclosed structure tactics which include basements and learn to conduct primary searches in such a way that specifically avoids the risk associated with these high-risk, high-frequency types of structure fires linked to firefighter fatalities.

## Integrating Risk Management by Using Warranted Defensive Attacks

A second way to address the structural fatality problem is by using sound officer judgment at every structure fire. The reasoning during the emergency must be based on the danger encountered and knowledge of the safe and acceptable tactics to utilize for a specific situation. In addition to the tactics discussed in the caption for [NIOSH F2006-26](#), a defensive or exterior attack should also be utilized on structures that are fully involved and where there is nothing left to save. Similarly, a primary search in these types of involved areas should not be initiated. The National Fire Protection Association directs firefighters during these challenging fireground situations. According to NFPA 555- Guide on Methods for Evaluating Potential for Room Flashover, flashover is defined as: "A stage in the development of a confined fire in which all exposed surfaces reach ignition temperatures more or less simultaneously and fire spreads rapidly throughout the space." The guide goes on to state that " the occurrence of flashover within a room is the ultimate signal of untenable conditions within the room of fire origin as well as a sign of greatly increased risk to other rooms within the building." This guide, used for safety based decision making, must also be applied when encountering structures which may be partially or well involved but that are abandoned, vacant or dilapidated. In these specific situations and where life safety is not an issue, first arriving officers must integrate risk management with incident management by communicating to all companies that a more reasonable defensive attack will be utilized.



**NIOSH F2005-09** - As fire was showing through the roof at the rear of this vacant structure, firefighters initiated a fast attack. During the attack, the roof collapsed trapping and killing an officer while injuring several others.



**NIOSH F2005-09** - This photo was taken just prior to, or near the time of the roof collapse.

## Not For a Piece of Property

Firefighters traditionally serve communities very well by saving lives and structures that can be saved, however, firefighters can no longer needlessly place their lives in extreme danger. Across the country today, firefighters are receiving excellent training in the National Fallen Firefighters Foundation's *Courage to be Safe Program*<sup>SM</sup>. Within the cultural safety portion of this presentation, FEMA Director and former U.S. Fire Administrator, R. David Paulison provides firefighters with a simple, yet significant message which takes only 13 seconds to deliver, but if applied nationally, could save lives on the fire ground. Paulison states:

"What we're trying to do is change the culture of the fire service. It's no longer acceptable to put your life on the line for a piece of property. Yes, we're going to save lives and we're going to put our lives on the line if we have to save somebody else. But stop and think what you're doing before you go into a burning building." To prevent the tragic loss of firefighters, the safety culture must change. In this effort, firefighters must understand that they are not required to sacrifice their lives to save any structure, regardless of the type of occupancy encountered, including but not limited to: residences, churches, restaurants or even a high rise building.

## It Takes Tactical and Cultural Change to Prevent LODDs

If your department routinely implements a fast and aggressive interior attack, without following a risk management statement and is not aware of the dangers associated with enclosed, abandoned, vacant or dilapidated structure fires or maintained structures that cannot be saved, your firefighters run a high risk of serious injury or fatality. In the future, the high percentage of firefighter fatalities suffered at structure fires will only be reduced if local, progressive leadership, institutes tactical changes more appropriate to managing basement fires and for vacant or abandoned property not worth the life of a firefighter.

**Note:** This article implements *Everyone Goes Home*® Firefighter Life Safety Initiatives 1, Cultural Change relating to safety and 3, Integrating Risk Management with Incident Management

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2. NFPA (2004), [NFPA 555- Guide on Methods for Evaluating Potential for Room Flashover](#), Chapter 3, Definitions, 3.3.2, Flashover, page, 555-6.
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5. Mora, W.R., "[U.S. Firefighter Disorientation Study, 1979-2001](#)" (2003).
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### Related:

» [U.S. Fire Administration Firefighter Fatalities Links of Interest](#)

# Fire Prevention and Safety Grant Application Period Now Open

Courtesy of [Assistance to Firefighters Grants \(AFG\) Program](#)

The application period for the FY 2008 Fire Prevention and Safety (FP&S) Grants opened on February 2. Applications for these grants must be received by March 6, 2009 at 5:00 p.m. EST.

The Fire Prevention and Safety Grants (FP&S) are part of the Assistance to Firefighters Grants (AFG) and are under the purview of the Grant Programs Directorate in the Federal Emergency Management Agency. FP&S grants support projects that enhance the safety of the public and firefighters from fire and related hazards. The primary goal is to target high-risk populations and mitigate high incidences of death and injury. Examples of the types of projects supported by FP&S include fire prevention and public safety education campaigns, juvenile firesetter interventions, media campaigns, and arson prevention and awareness programs. In fiscal year 2005, Congress reauthorized funding for FP&S and expanded the eligible uses of funds to include Firefighter Safety Research and Development.

# Take the Fired Up For Fitness Challenge

Courtesy of the National Volunteer Fire Council's [Heart-Healthy Firefighter Program](#)

The Fired Up For Fitness Challenge is an interactive fitness program that allows firefighters and emergency personnel to log their hours of activity and receive incentives rewards as they reach certain benchmark numbers of hours.

The Fired Up For Fitness Challenge recently underwent a redesign to include enhanced features, exciting rewards, and a more user-friendly format. The Challenge is now part of the new Adopt the Program component of the Heart-Healthy Firefighter Program, which provides extensive tools and resources to help first responders adopt and maintain a heart-healthy lifestyle.

Participants who accept the new Fired Up For Fitness Challenge are challenged to meet certain fitness goals over the course of a year. As each milestone is reached, participants receive rewards to recognize their achievements. Learn more and register to take the Challenge and adopt the program at [www.healthy-firefighter.org/atp](http://www.healthy-firefighter.org/atp).

## Related:

» [Fired Up For Fitness Challenge](#)

# Identifying Firefighters at Risk of Heart Attack While on the Job is Goal of University of Buffalo Study

Courtesy of the [University of Buffalo News Center](#)

The most frequent cause of death among firefighters is not flames: It's their hearts.

Forty-four percent of U.S. firefighters who died on duty in 2007 succumbed to a heart attack, based on data from the U.S. Fire Administration. That figure is twice the number of cardiovascular deaths among on-duty police officers.

Despite the high incidence of death among these important protectors of society, no recording of the electrical activity of the heart over time using an electrocardiogram (ECG) has been collected to determine why firefighters are at unusually high risk of dying on the job.

Mary Carey, Ph.D., assistant professor in the University at Buffalo (UB) School of Nursing, has received a \$411,539 two-year grant from the National Institute of Nursing Research to monitor firefighters' heart function while on duty to identify those at risk for heart attack and sudden cardiac death.

The new study, called SAFFE -- Surveying & Assessing Firefighter Fitness and Electrocardiograms -- is underway and involves 118 members of the Buffalo Fire Department in up to 12 fire precincts around the city.

A heart attack is caused by an interruption of blood flow, while sudden cardiac death results from a disruption of heart rhythm. Carey has done research on sudden cardiac death with John M. Canty Jr., M.D., Albert and Elizabeth Rekate Professor and director of the Center for Research in Cardiovascular Medicine in the UB School of Medicine and Biomedical Sciences.

"This novel study will develop a non-invasive risk stratification approach to identify more accurately which firefighters are at risk for cardiovascular events," said Carey.

"Over the longer term, this research should help develop algorithmic guidelines that would send at-risk firefighters for aggressive cardiac care to reduce their cardiovascular risk factors." Carey's pilot study conducted with 28 Buffalo firefighters showed that they could wear a portable ECG, a device that monitors heart function beat-to-beat, while on the job, and that the device provided accurate data.

In the new study researchers first will collect firefighters' resting ECG and oxygen intake (VO<sub>2</sub>) and maximum ECG and VO<sub>2</sub> while participants exercise on treadmill. ECG measures will continue to be collected for eight hours after returning from a call, because research shows firefighters are at highest risk of cardiac events after a call.

Participants will wear the ECG strapped to their torso, which will collect data from 10 points, called leads, continuously for 24 hours during all activities: fire and medical calls, training, meals, exercise and nonemergency duties such as maintenance, parades, classroom activities, and rest or sleep.

The relationship between heart rate and VO<sub>2</sub> will be collected during short periods while firefighters are on duty.

"Because cardiac events are one of the leading causes of death among these first-responders who serve the public, we hope that using these measurements will help identify those whose health is at risk while they protect ours," said Carey.

James A Fallavollita, M.D., UB professor of medicine and senior scientist in the cardiovascular research center, also is a significant contributor on the study.

The University at Buffalo is a premier research-intensive public university, a flagship institution in the State University of New York system and its largest and most comprehensive campus. UB's more than 28,000 students pursue their academic interests through more than 300 undergraduate, graduate and professional degree programs. Founded in 1846, the University at Buffalo is a member of the Association of American Universities.

# FEMA Awards the University of Arizona a \$1 Million Grant to Study the Risk of Sudden Death From Cardiovascular Disease in Firefighters

## Department of Homeland Security News Release

The Federal Emergency Management Agency (FEMA) has awarded the University of Arizona a \$1 million grant to study the risk of sudden death from cardiovascular disease in firefighters, part of the "2007 Assistance to Firefighters Grant Project."

Half of all line-of-duty (or "on the job") deaths for firefighters are due to sudden, severe cardiovascular incidents such as heart attacks, even though firefighters tend to be a healthy group as a whole since strength and fitness are required for the job. "For many firefighters we don't have a really good way to determine who is at higher risk of sudden death due undiagnosed cardiovascular disease", said Dr. Jeff Burgess, Principal Investigator of this grant and associate professor at the University of Arizona Mel and Enid Zuckerman College of Public Health (MEZCOPH).

Standard risk factors such as age, high blood pressure and family history can be used to help screen those more likely to die suddenly, but firefighters with no symptoms of heart disease and who may not possess these well-known risk factors might still be in danger. This two-year, grant-funded study will look at improved screening methods to find hidden cardiovascular disease in firefighters and to identify risk factors while fighting fires for those at risk of sudden death by heart attack. The research will also look for possible ways to reduce a firefighter's risk of heart attack through workplace modifications such as by using special cooling gloves after the fire.

## Pathways to Heart Attacks

Heart attacks usually occur after a chain of physical events. A series of events that researchers can trace before a fatal heart attack occurs is called a pathway. The pathways that lead to a fatal heart attack usually involve events culminating in a clot forming in the arteries supplying the heart. This causes damage to the heart when blood flow is restricted to a part of the heart muscle. Activation of these pathways may not affect most people, but can be devastating to those at highest risk. Researchers will compare markers in the blood of the firefighters before and after fighting fires to determine which work factors have the greatest effect on activation of these pathways. To accomplish this, the study has three different areas of investigation, outlined below.

### I. Finding Hidden Cardiovascular Disease in Firefighters

Five hundred Phoenix and Tucson firefighters without known heart disease will be evaluated using non-invasive tests to look for early thickening of the walls of their blood vessels. The goal is to find early evidence of atherosclerosis, a chronic inflammatory response in the walls of arteries or hardening of the arteries which in the heart can lead to sudden death. The results of the study will be reviewed by a group of experts from the Fire

Protection Research Foundation of the National Fire Protection Association to determine how to best use the new information to improve firefighter medical surveillance.

## II. Cardiovascular Risks while Firefighting

The study will measure exposures, including components of smoke, physical stress and heat, that firefighter encounter while responding to structural or other fires. As the firefighters work, researchers will monitor their exposures to inhaled pollutants for a prescribed period of time. Their heart rate and body temperature will also be measured. Blood samples will be collected before and after the firefighting to look for changes in blood markers associated with injury to blood vessels and other pathways involved in heart attacks.

## III. Using Cooling Gloves during Rehabilitation

The study will look at a way to modify the workplace for firefighters which might help prevent activation of pathways that could lead to a fatal heart attack. As an example, firefighters endure a tremendous amount of heat stress while fighting a fire. Special cooling gloves will be worn by firefighters to lower their body temperature during the rehabilitation period at the fire scene, when firefighters rest and recuperate from their exertion. The effectiveness of reducing core body temperature after a fire in preventing changes in pathways that can lead to a heart attack will be studied. Protecting Firefighters at the University of Arizona This grant's success draws on a long history of research into protecting firefighters by MEZCOPH faculty and the University of Arizona:

- Dr. Wayne Peate works on the detection and prevention of disease and injuries in firefighters with the Tucson Fire Department
- Dr. Kelly Reynolds has studied the presence of the Methicillin-Resistant Staphylococcus Aureus (MRSA) bacteria in Tucson fire stations.
- Dr. Jeff Burgess has worked on various projects over the past fifteen years with the Tucson, Phoenix and Seattle fire departments.

"I'm very excited about this opportunity. It is an honor to work with firefighters to help create the safest possible workplace for an inherently dangerous profession," said Dr. Burgess, who is also the Director of the Community, Environment and Policy (CEP) Division at the College, which is dedicated to teaching, service and research on the many different areas of public health policy and environmental and community health.

## Grant Participants

The researchers at the University of Arizona and others who will be involved in this study are:

- Jeff Burgess, MD, MPH, Associate Professor for the Mel and Enid Zuckerman College of Public Health (MEZCOPH), and Division Director of the MEZCOPH Community, Environment and Policy (CEP) Division
- Eyal Shahaar, MD, MPH, Professor at MEZCOPH specializing in epidemiology of cardiovascular disease
- Wayne Peate, MD, MPH, Associate Professor at MEZCOPH
- MEZCOPH academic research professionals and staff including Sally Littau, MT(ASCP) CLS(NCA) and Margaret Kurzius-Spencer, MS
- MEZCOPH students
- Dr. Joseph Mills, a vascular surgeon at the University of Arizona College of Medicine
- Dr. Richard Gerkin, a Phoenix cardiologist
- Members of the Tucson Fire Department

- **Members of the Phoenix fire Department**
- **The National Fire Protection Association**