



Here's To Your Health!

A Phoenix Fire Department Health Center Publication

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Toxic Exposure Form Archiving Process

It is very important that all Toxic Exposures are accounted for and proper documentation is initiated. This is how your exposure form gets processed and stored in the Health Center database.

1. Follow decontamination procedures for PPE and self.
2. Captain fills out MCT exposure mask after incident.
3. All exposed crew members fill out form **91-38d - Fire Personnel Toxic Exposure Form**. Keep pink copy for your personal record.
4. Send forms into the Health Center attention **Toxic Exposure Officer**.
5. Once the form is received it's put into a database then a file is created and archived.
6. This record is a supplement to your medical file for 30 years.
7. The archive and database is then a source of reference and documentation for industrial claims.

If you have any questions feel free to contact Gene Tambascio or Steve Podzielnny by calling the Health Center at 534-3941 or 495-5797.

Firefighter Fitness and Medical Evaluations

A Difficult Journey

The following article was written by John K. Murphy and is posted on the *Fire Engineering* website.

Heart attacks and strokes were responsible for the deaths of 54 firefighters (47 percent) in 2007; the average age of the firefighter was 44 years old.¹ The number of firefighter deaths attributed to cardiac problems is three times greater than that for the U.S. population. Unfortunately, the number-one cause of death in North America is cardiovascular disease, mostly caused by obesity,² and, according to some research, 70 percent of heart disease fatalities are preventable through lifestyle changes.³

About 30 percent of preventable firefighter cardiac deaths occur during firefighting activities; a firefighter's chance of dying while fighting a fire is 100 times higher than when performing everyday activities.⁴ A 10-year study by the National Fire Protection Association (NFPA) found that about half of American firefighters who died of sudden cardiac arrest or suffered heart attacks had known heart conditions and about 75 percent had heart conditions that simple medical testing could have detected.

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Firefighters don't generally start out with undiagnosed heart disease, as most departments provide some type of entry-level medical physical evaluation to determine if the firefighter candidate meets the minimum medical standards. These medical standards have been promulgated into the NFPA 1582, *Standard on Comprehensive Occupational Medical Program for Fire Departments*, 2007 Edition. Those who make it and are hired as firefighters face a lifetime of developing and maintaining good health habits and actively participating in a comprehensive fitness program to combat cardiovascular disease, stroke, injury, and possible death. The results of comprehensive entry-level and annual medical examinations have been surprising: The general consensus is that firefighters are generally healthy, and there are no silent medical problems on most of those evaluations. Other firefighters undertaking a medical evaluation have discovered some correctible hidden health problem and had them corrected. For still others, the medical problem is so severe that, even after correcting the medical problem, the firefighter was unable to return to work and had to retire or find other employment.⁵ The increase of overall health risks is attributed in part to occupational risks. Firefighters must perform physically intense work under conditions inherent in the job. Those environmental and physical exertion conditions that increase myocardial oxygen demand are high temperatures and carbon monoxide levels, which are job-related hazards. These conditions lead to cardiac risk factors that are highest among firefighters than other comparable worker groups, such as long shore workers and lumbermen.⁶ The increase in cardiovascular risk factors, combined with physically stressful fire suppression work settings, account for heart attacks that cause almost half of firefighter on-the-job deaths.⁷ Although firefighters recognize the disparity between their occupational demands and physical health and the general population, previous lifestyle interventions have been largely unsuccessful.⁸

Despite the fact that firefighters' jobs require vigorous physical activity under extreme conditions and present the stress of urgent life-threatening situations, studies indicate a high prevalence of sedentary lifestyles, obesity, hypertension, dyslipidemia, certain malignancies, and chronic musculoskeletal complaints. Firefighters generally have lower physical fitness than workers in other hazardous occupations, including police officers and construction workers.⁹

Of the 38 victims of sudden cardiac events in 2007, post-mortem medical documentation showed that 10 firefighters had severe arteriosclerotic heart disease; five were hypertensive; four were reported to have had prior heart problems such as prior heart attacks, bypass surgery, or angioplasty/stent placement; and three were diabetic. (Some of the victims had more than one condition.) Over the past 25 years, post-mortem information or other details on the victims' medical histories have been available for 720 of the 1,155 sudden cardiac death victims. Of those 720 victims, 663 (or 92.1 percent) had suffered prior heart attacks, had severe arteriosclerotic heart disease, had undergone bypass surgery or angioplasty/stent placement, or were diabetic or hypertensive.¹⁰

Also included in the mortality and morbidity statistics are strokes, diabetes, obesity, and other preventable diseases, albeit poorly documented in the reports. These percentiles are recorded only for active-duty firefighters. The retired firefighter mortality rate is much higher. Just look at the last page of every International Association of Fire Fighters (IAFF) publication, but nobody keeps those statistics. It would be safe to say that longevity after retirement is not profound and that after firefighters leave active service and retire, they die at a rate that exceeds the national average per job classification, and often prematurely.

What the studies also don't cover are those firefighters who die from a cardiac event after returning home and while off-duty, several days after a call, in the gym working out, working at home, on vacation, sleeping, or soon after retirement. You can imagine that those tragic deaths followed the same pattern of those occurring in the line of duty—a known cardiac condition, an undiagnosed cardiac condition, or just plain denial—that precluded those firefighters from seeking a medical evaluation while on the job.

What are we doing to prevent this unnecessary loss of life? The lack of focus on wellness and fitness continues to plague fire departments. Many of these deaths can be prevented with a proactive wellness and fitness program. (10) Studies conducted by the American Heart Association and the Centers for Disease Control and Prevention (CDC) continue to show that modifying those identifiable behavioral characteristics can reduce a person's chance of dying prematurely from a heart attack. (2)

Although it is crucial that fire personnel be physically fit to perform essential job functions, being physically fit does not make one impervious to cardiovascular disease. Wellness is defined as having all aspects of health, including physical health, social health, mental health, and spiritual health. Incorporating all components of a health wellness and fitness program may decrease the risk of cardiovascular disease by 70 percent.¹¹

In view of the statistics relative to heart disease as a preventable disease, fire departments realized the need to incorporate a wellness and fitness program into their departments. In 1987, the NFPA developed a standard for occupational and health and safety that specifically addressed a wellness program for fire departments (NFPA 2000). Several years later, the International Association of Fire Chiefs (IAFC) and the IAFF initiated the Fire Service Joint Labor Management Wellness Fitness Initiative. The initiative in 1997 supported a comprehensive physical fitness program that required mandatory participation. More recently, the National Institute for Occupational Safety and Health (NIOSH) advocated that fire departments adopt mandatory wellness programs with mandatory annual fitness requirements (CDC 2007). The United States Fire Administration (USFA) also recommends and promotes reducing firefighter fatalities by incorporating the recommendations from NIOSH, the IAFC, and the NFPA.

The NFPA maintains standards that address health issues related to firefighters. NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, 2007 Edition, includes key elements that focus on the comprehensive wellness and fitness program. NFPA 1582 outlines key elements that focus on fire department medical physicals and also provides for a health and fitness coordinator, a health and safety officer, an infection control officer, and a health and safety committee. NFPA 1583, *Standard on Fire Department Occupational Safety and Health Program*, 2008 Edition, focuses on fire department fitness programs. All of these standards are periodically updated to meet the increasing challenges of firefighter safety with common sense, science, and technology.

To combat these needless deaths, fire departments have created local fitness programs to address these issues; are formulating and promoting the Wellness Fitness Initiative Guidelines; are training peer fitness trainers; are purchasing fitness equipment for the fire stations; are encouraging fitness programs on duty; and are urging firefighters to eat a more healthful diet, to not smoke, to evaluate their risk factors, and to participate in a medical evaluation program.

Departments should encourage every firefighter over the age of 40 to get an annual comprehensive medical evaluation from a physician following the standards in NFPA 1582. In addition, firefighters should engage in programs that detect preventable and correctable conditions such as hypertension, diabetes, coronary artery disease, colon cancer, prostate disease, asthma, and other career- and life-ending conditions. Firefighters are urged to get into the gym and start a comprehensive cardiac and strength-building program that follows the guidelines in NFPA 1583. In addition, firefighters should wear their seat belts and pay attention to their health and well-being.

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Supplements Can Be Dangerous

IDS Sports and FDA notified consumers that five of the IDS's dietary supplement products (Bromodrol, Dual Action Grow Tabs, Grow Tabs, Mass Tabs, and Ripped Tabs TR) contain the following undeclared substances, which FDA considers to be steroids: "Madol," "Turinabol," "Superdrol," and/or "Androstenedione."

Acute liver injury is known to be a possible harmful effect of using steroid-containing products. In addition, steroids may cause other serious long-term adverse health consequences in men, women, and children. These include shrinkage of the testes and male infertility, masculinization of women, breast enlargement in males, short stature in children, a higher predilection to misuse other drugs and alcohol, adverse effects on blood lipid levels, and increased risk of heart attack, stroke, and death.

The recalled products were distributed in either black boxes containing blister packs of 60 capsules or white bottles with black labels containing 30 or 60 capsules.

Customers who have any of the products in their possession should stop using them immediately and contact their physician if they have experienced any problems that may be related to using the products. Any adverse events that may be related to use should be reported to the FDA's MedWatch Safety Information and Adverse Event Reporting Program online [at www.fda.gov/MedWatch/report.htm], by phone 1-800-332-1088, or by returning the postage-paid FDA form 3500 [which may be downloaded from the MedWatch "Download Forms" page] by mail [to address on the pre-addressed form] or fax [1-800-FDA-0178]. Read the MedWatch safety summary, including a link to the Press Release, at: <http://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm190925.htm>

Raw veggies are still a great way to get vitamins and minerals, but specific cooking tips can release additional nutrients—or preserve the health benefits while making the food tastier. Next time you make a hearty salad or a crudites platter, toss in some of these steamed, boiled, baked, or roasted additions.



Broccoli: steam

Raw: Broccoli is high in potential cancer-fighting nutrients such as betacarotene, lutein, and flavonols.

Cooked: Steamed broccoli has higher concentrations of many carotenoids (including beta-carotene and lutein) than raw, according to a recent study in the *Journal of Agricultural and Food Chemistry*. Plus, it retains nearly 70 percent of its vitamin C and virtually all of its kaempferol, a cell-saving flavonoid.

Bonus: To maximize the nutrients you get from your broccoli, wait to wash and cut it until just before steaming, suggests Ellie Krieger, R.D., author of *So Easy* and host of Healthy Appetite on the Food Network. Washing and cutting speeds up deterioration.

Carrots: Boil until tender

Raw: Carrots are a good source of vitamin C and carotenoids, a family of antioxidants that includes beta-carotene. These contribute to good eye health and may also reduce your risk of heart attack and some forms of cancer.

Cooked: Boiling makes the carotenoids 14 percent more concentrated, according to a recent study in the *Journal of Agricultural and Food Chemistry*. Dietary fiber in the cell walls of carrots traps the carotenoids, but high heat releases and concentrates the compounds, making it easier for your digestive tract to access them, explains Philipp Simon, Ph.D., a scientist with the USDA Vegetable Crops Research Unit. The study also found that boiling increases carrots' total antioxidant capacity (their ability to attack free radicals) while only slightly diminishing vitamin C levels.

Bonus: Add a drop of oil to your cooked carrots; the fat helps your body absorb more of the beta-carotene.

Garlic: roast cloves for no more than 3 minutes

Raw: Garlic contains alliinase, an enzyme with antiplatelet properties that may help reduce blood pressure and prevent blood from clotting, which decreases your risk of heart disease.

Cooked: Roasting garlic cloves (for up to 3 minutes at no more than 390°F) helps retain nearly all of their anti-platelet capabilities—with less of the odoriferous side effects of raw, say researchers at the USDA and the National University of Cuyo in Argentina. Turn off the heat after 3 minutes—by 6 minutes, garlic loses about 80 percent of its clot-busting abilities; by 10 minutes, 100 percent. And don't cook in the microwave; it destroys the alliinase, says Simon.

Bonus: Crush or chop cloves before cooking to release even more alliinase, even as cooking times increase.