Recognizing Risk Factors Can Reduce Fatalities

By Michael Petroff

Firefighters are action-oriented individuals. Given the choice of pre-fire planning or an actual response, most would go for the latter.

At these responses, decisions are made quickly and with limited information. Safety is managed aggressively, and firefighters can be injured or killed during these operations.

Firefighter morbidity and mortality statistics have been published for several decades. These statistics measure firefighters' injuries, illnesses and deaths that occur while active members of a department.

But while line of duty deaths have long been recorded, an unknown number of...
firefighters, active and retired, die from cancers and other illnesses that may be related to firefighting.

Because of the absence of, or lapses in, medical evaluations, many illnesses and diseases are not recognized as duty related. Medical screenings and tests can provide early detection of these conditions.

A study published in the November 2006 Journal of Occupational and Environmental Medicine found an elevated risk for several cancers among firefighters. Grace LeMasters and colleagues from the University of Cincinnati state in the report, "We believe there's a direct correlation between the chemical exposure firefighters experience on the job and their increased risk for cancer."

**Unaware of risks**
Exposures occur in several forms and by several routes. Respiratory exposures occur because firefighters remove breathing apparatus without knowing airborne hazards exist. Many departments use carbon monoxide levels as an indicator of the need for respiratory protection.

Tests for other contaminants are not normally carried out at fire scenes. The report further states that firefighters are exposed to "particulates, gasses and mists, heavy metals, carcinogenic chemicals, asbestos, and other substances with toxic effects."

Particulate matter includes pulverized concrete, fiberglass and soot. Diesel soot is a common contaminant found in stations that do not have exhaust removal systems.

All skin cancers, melanoma, leukemia, and cancer of the brain, rectum, buccal cavity and oral pharynx, stomach and colon are all possibly associated with firefighting, according to the study.

The recommendations on risk reduction include the increased use of breathing apparatus, and reducing exposure to skin contaminants, such as soot, by showering thoroughly after fires. The report also suggests decontamination of turnout gear after incidents.

Base-line medical evaluations can provide information that removes suspicion about pre-existing medical conditions, and may assist in proving job-related exposures.

The NFPA Standard 1582 provides a comprehensive medical program for candidates and incumbent members of fire departments. In addition, the International Association of Firefighters and International Association of Fire Chiefs created the Fire Service Joint Labor Management Wellness - Fitness Initiative, which is referenced in the NFPA 1582.
Reducing medical risks
The United States Fire Administration and the National Volunteer Fire partnership also published the Health and Wellness Guide for the Volunteer Fire Service.

These programs incorporate fitness, nutrition and medical testing in attempts to reduce medical risks for firefighters. Awareness of dangers and exposures that firefighters face can help them make decisions that will reduce their risks, and reduce firefighter morbidity and mortality.

But the implementation of programs has direct and indirect costs. Medical testing is expensive. An annual physical costs approximately $325, while more extensive testing may double this amount. The indirect costs of medical testing include the possibility of discovering career-ending conditions for incumbent firefighters and the exclusion of candidates from entering the service.

The programs must be implemented to reduce firefighter deaths, but how can departments with limited resources begin? First, make a commitment. Then, begin no-cost measures, such as improved firehouse meal selection and preparation – not everything must be deep fried.

After clearance from a doctor, an exercise program can start with low start-up expenses. More features can be added by contacting medical facilities and asking about group discounts.

Some departments have benefited from medical research facilities. A department in St. Louis County made contact with Washington University School of Medicine, by chance at the time a cardiac physician needed cardiac stress test candidates. The cost of the testing was minimal.

Other help is available, too, from organizations such as the NFPA, the USFA and the FDSOA, which can provide information regarding standards, programs and reference materials.

The Life Safety Initiatives call for a change in fire service culture, as current attitudes may be exposing firefighters to medical risks. The recognition of medical risk factors, and reducing exposure to these risks, can help reduce illnesses and deaths of firefighters.

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The Fire Department Safety Officers Association was formed in 1989 for the purpose of addressing firefighting safety issues. Today, more than 3,000 members represent public, private and industrial fire and EMS personnel around the world. The FDSOA is an accredited certifying agency of the National Board on Fire Service Professional Qualifications. The FDSOA membership and Board of Directors are active in many facets of the fire service including the National Fire Protection Association. For additional information on certification and membership, contact the FDSOA at www.fdsoa.org.