

Firefighter Uniform Adapts To Cancer Risk, Active Shooter Threat

Published on 26 Jul 2018



More than an outfit. More thought than one leg at a time. Putting on the uniform is not just an ordinary daily task, but a habitual part of preparing for the unexpected. Yes, a firefighter's uniform is more than an outfit. Think about who is wearing it and the risks they are exposed to on a daily basis.

The firefighter comes from a long line of heroes, a brotherhood and sisterhood, with traditions to uphold and a reputation to maintain. Their uniform is no different. Its historical navy-blue threads. Classic, professional appearance. Tactical features. Technology-driven fabric. Over

time, the uniform's engineering has needed to adapt with new designs and react to worsened exposures and more dangerous rescue missions. The 21st Century firefighter's uniform is unique and specific to the job with current trends fixating on the best user experience while future plans focus on preventative and safety measures due to increased societal and architectural risks.

Comfortable firefighter uniform

So, what does the 21st Century firefighter want? Comfort. Beyond Personal Protective Equipment, it is an overwhelming plea for a more comfortable uniform to wear. This includes garments that are easy "wash and wear" materials that do not require additional ironing.

The trend calls for lightweight, breathable, cool-weather wear that is less restrictive and offers more give and more stretch so firefighters can perform their job responsibilities more efficiently. However, they do not want to lose the professional appearance or tactical functionality of the uniform.

"We need something that looks presentable every time," said Chief Robert Burdette of Grand Blanc Fire Department, Michigan.

Additionally, more firefighters are also starting to wear polo shirts or mesh T-shirts under their Turnout gear, for a lighter weight, more breathable option from the traditional uniform shirt.



The trend calls for lightweight, breathable, cool-weather wear that is less restrictive

Risk of cancer

Unfortunately, comfort is not the only concern firefighters have when it comes to uniforms, or their safety in general. As risky and demanding of a profession the fire service can be, the fires have proven not to be the most hazardous or life threatening. According to the Firefighter Cancer Support Network, *"Cancer is the most dangerous threat to firefighter health and safety today."*

A study conducted by the National Institute for Occupational Safety and Health (NIOSH) concluded that firefighters have a 9% increased chance of being diagnosed with cancer and a 14% increased chance to die from cancer compared to the general United States population.

Chief Dennis Jenkerson of the St. Louis Fire Department in Missouri is one of many chiefs actively fighting these statistics. Responsible for 32 firehouses, Jenkerson has witnessed the

reality of this threat with the loss of four of his own and understands the validity of the situation. For the last 18 months, the St. Louis Fire Department has made headway implementing a drastic culture change by evaluating everything from equipment, apparel, lifestyle and more.

Cancer affecting firefighters

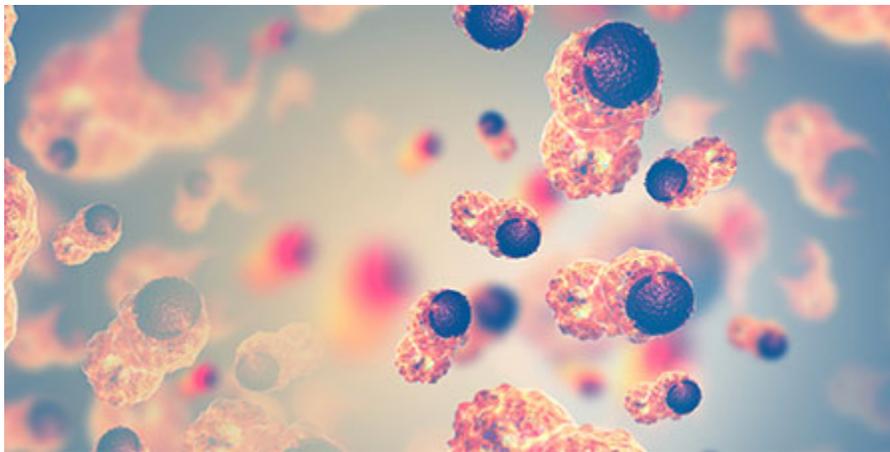
"It is so prevalent that everything we do anymore has to do with some emphasis on protecting firefighters from getting cancer," said Chief Mike Ramm of Sylvania Township Fire Department, Ohio.

“ *"Cancer is the most dangerous threat to firefighter health and safety today"*

According to the Firefighter Cancer Support Network, the cancers that have mostly affected firefighters are respiratory (lung, mesothelioma), gastrointestinal (oral cavity, esophageal, large intestine) and kidney.

"Testicular cancer is through the roof," added Jenkerson, who has pushed his firefighters to get tested for cancers earlier than normally necessary. He also explained that the imagery of a firefighter drinking from a fire hydrant can no longer happen. He emphasized the importance of cleaning up instantly after every fire.

Think of the simple act of removing grimy gloves after a call – at least one hand has been exposed to the cancerous contaminants if it was accidentally used to take off the other glove. If that unwashed, contaminated hand touches food that goes into the mouth of the firefighter, he/she is essentially eating what may cause esophageal, oral cavity or gastric cancers.



Cancer is the most dangerous threat to firefighter health and safety today

According to the International Association of Fire Fighters (IAFF) via the Firefighter Cancer Support Network, cancer caused 61% of the career firefighter line-of-duty deaths from January 1, 2002 to March 31, 2017. Additionally, 70% of the line-of-duty deaths for career firefighters were because of cancer in 2016. Unfortunately, this hazard is not going away any time soon.

The new building materials and new house furnishings have become the culprit for this major concern. These materials are man-made and are not of natural resources. When burned, they create deadly carcinogens that the firefighters are getting exposed to firsthand.

Immediate decontamination process

Jenkerson's implementation of a culture change includes an immediate decontamination process following a fire, which involves getting hosed with water, cleansing wipes for all soft tissue areas of the body and an immediate shower back at the station.

"Any place you can get a five degree rise in skin temperature, the absorption level goes up 10 times," Jenkerson warned. His firefighters are instructed to remove their bunker gear, uniform, helmet and all other equipment right away that get immediately washed once they have returned to the station.

“ Hems, collars, cuffs and cargo pockets are areas of the uniform where toxins get caught

He also restricts all firefighters and EMTs from going on a second run until they have showered and have put on a new, clean set of clothes, all the way down to their underwear. *“There are no two-runs. We have to get this stuff off [of them].”*

Uniform manufacturers are tasked with finding a solution to help facilitate Jenkerson’s and other Fire Chiefs’ visions by designing a uniform with as little gaps and fold-over materials as possible.

“Everything needs to be sealed tight,” Jenkerson explained. Hems, collars, cuffs and cargo pockets are all areas of the uniform where toxins get caught. A lightweight shirt option that offers a crew collar with a two to three button placket and a lightweight, ventilated hidden cargo pant could be the future of fire uniforms.

“There isn’t another profession that has the thousands of dangers that we have every day,” Ramm explained.

Additional and ongoing efforts currently underway according to the *NFPA Journal*, include those by the Firefighter Cancer Support Network, the Congressional Firefighter Cancer

Registry, the Fire Protection Research Foundation, the FPRF Campaign for Fire Service Contamination Control, and the International Association of Firefighters.

Active shooter emergency response



Firefighters and EMTs increasingly need to wear bullet proof vests with the surge in active shooter calls

An additional and unfortunate trend that is also sweeping the nation is the need for firefighters and EMTs to wear bullet proof vests. Departments are trying their best to arm their men and women with this protection along with ballistic helmets in certain regions due to the surge in active shooter calls.

"In areas that have a lot of gang-related activity, [bullet proof vests] would be beneficial," said Jason Reyes of Allen Fire Department, Texas. *"Sometimes you go on calls when the city doesn't have enough police to respond to calls, which creates a situation that leaves firefighters unprotected and vulnerable."*

Currently the market has ballistic vests available that can either be worn over or under a firefighter's uniform and under their bunker gear. Uniform manufacturers also offer an external vest carrier option that is worn over a firefighter's uniform to look like part of the uniform shirt to maintain a professional appearance.

Distinguishing firefighters from law enforcement

"Firefighters find themselves becoming targets more and more these days," added Deputy Chief of Operations Dwayne Jamison of Bartow County Fire Department, Georgia. *"Many departments, including my own, are looking to outfit their firefighters with bullet proof vests"*

Although this trend has not affected every region, industry experts can see the need becoming more widespread if threats continue to increase the way they have been. Along the same lines, firefighters want to be identified as firefighters and not mistaken for law enforcement.

"We don't want to look like police," Jenkerson said. *"We want to be identified as firefighters. Even if it takes a different stripe."*

When it comes to uniform trends for firefighters, it is clear there is more to focus on than the technical details. For many fire departments, future trends could serve as a tool to prevent deadly toxins from being absorbed and from lethal bullets puncturing unprotected firefighters and EMTs. The uniform is more than an outfit. With a larger purpose than to shield a body, the uniform goes beyond the navy-blue threads, professional appearance and tactical features to one day supporting what could be a lifesaving concept.

Sources

- ┌ [Firefighter Cancer Support Network](#), *Preventing Cancer in the Fire Service*
- ┌ [National Fire Protection Association](#), *Firefighters and Cancer*
- ┌ [NFPA Journal](#), *Fast Track: Some of the national efforts underway to fight cancer in the fire service*; Roman, Jesse; 2017

Author Profile



Meggan Werkheiser