THE FIRE SERVICE CANCER TOOLKIT

FIRE SERVICE OCCUPATIONAL CANCER ALLIANCE

September 2017

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Fire Service Occupational Cancer Alliance

INTRODUCTION

Firefighting is inherently dangerous work. During routine activities, firefighters face many well-identified risks which include traffic hazards, structural collapse, hazardous materials, swift water perils, and high heat environments. However, there is an unseen, and less recognized, danger firefighters face – the risk of developing cancer.

Cancer is a leading cause of firefighter deaths in the United States.

History of the Fire Service Cancer Alliance

In January of 2015, over 50 fire service leaders, physicians, government officials, and scientists met in Washington, D.C. to address occupational cancer in the fire service. The National Fallen Firefighters Foundation (NFFF) facilitated the meeting. A Steering Committee was formed to help facilitate the prioritization of recommendations that were made during the initial meeting, and this group agreed to be recognized as the Fire Service Occupational Cancer Alliance ("Alliance").

One of the medium-term Alliance recommendations was to develop and distribute this Fire Service Cancer Electronic Toolkit, which was modeled after the successful Fire Service-Based EMS Electronic Toolkit, to provide comprehensive guidance regarding the risk and prevention of cancers caused by fire service occupational exposures.

The goal of this site is to provide a central repository of information gathered by fire service partners, as well as the broader scientific community. Within, you will find summaries and links to current

RESOURCE PARTNERS LIST

Centers for Disease Control and Prevention (CDC)

Firefighter Cancer Support Network (FCSN)

International Agency for Research on Cancer (IARC)

International Association of Fire fighters (IAFF)

International Association of Fire Chiefs (IAFC)

International Association of Women in Fire and Emergency Services (iWomen)

National Fallen Firefighters Foundation (NFFF)

National Fire Protection Association (NFPA)

National Institute for Occupational Safety and Health (NIOSH)

National Institute of Standards and Testing (NIST)

National Volunteer Fire Council (NVFC)

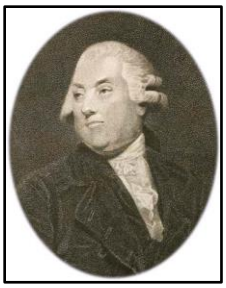
Underwriters Laboratories (UL)

United States Fire Administration (USFA)

research studies, specific cancer risk and cancer-related death statistics, training links, best practices guides, multimedia presentations, and state specific presumptive legislation resources.

A full report regarding the goals and objectives of the Alliance, including a summary of work to date, can be found on the Everyone Goes Home® website.

OVERVIEW



In 1775, a doctor by the name of Sir Percival Pott identified soot as a cancer-causing agent. He came to this conclusion after observing an unusually high occurrence of scrotal cancer among the chimney sweeps of London. Sir Pott later published his findings in the first-ever report of occupational exposure-related cancer.

Over 200 years later, a broad base of scientific study has continued to validate the link between job-related toxic exposures and increased cancer risk, specifically among members of the fire service. Studies have shown that, although the members of the fire service generally are reported to be in better physical condition than the average population of the same age, firefighters have higher incidences of developing and dying from cancer. A major contributing factor of this disturbing finding is that, through the course of normal operations, firefighters are exposed to a wide variety of dangerous carcinogens.

The Changing Landscape of Firefighting Equates to Increasing Cancer Risk

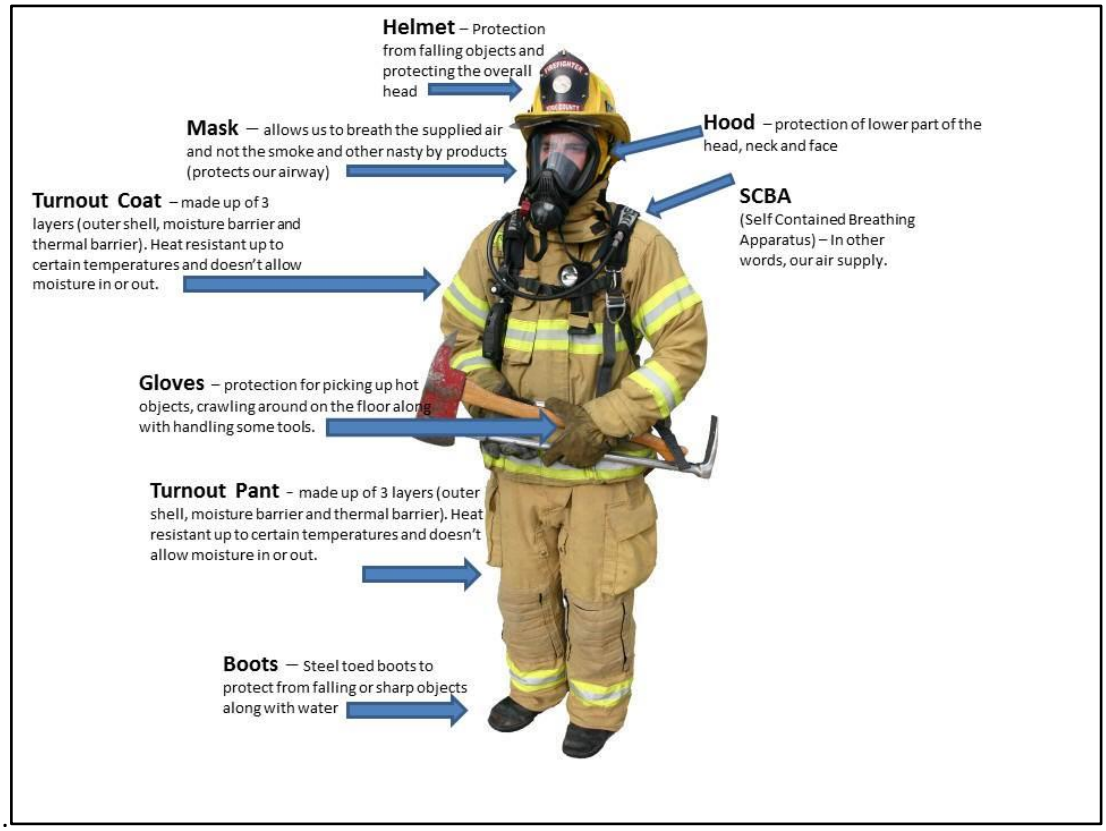
Building materials introduced over the last 40 years, such as engineered thermoplastics and laminated veneer lumber, significantly contribute to the release of cancer-causing agents during structure fires. In the first half of this century, homes consisted of legacy finishings – those made of simple components including wood, textiles, metal, and glass. The legacy finishings of yesterday have been replaced by the synthetic materials of today, which include complex plastics, lightweight foams, industrial polymers, and chemical coatings. As a result, firefighters now face fires that burn faster and hotter than ever before, and have been demonstrated to generate larger quantities of thick, toxic smoke. In fact, fire experts say synthetic materials create hundreds of times more smoke than organic ones and can increase toxic gases 10-fold.

This video, made by the National Institute of Standards and Testing (NIST), shows the danger of modern fires compared to the danger of fires occurring years ago.

Personal Protective Equipment (PPE) is Not Enough

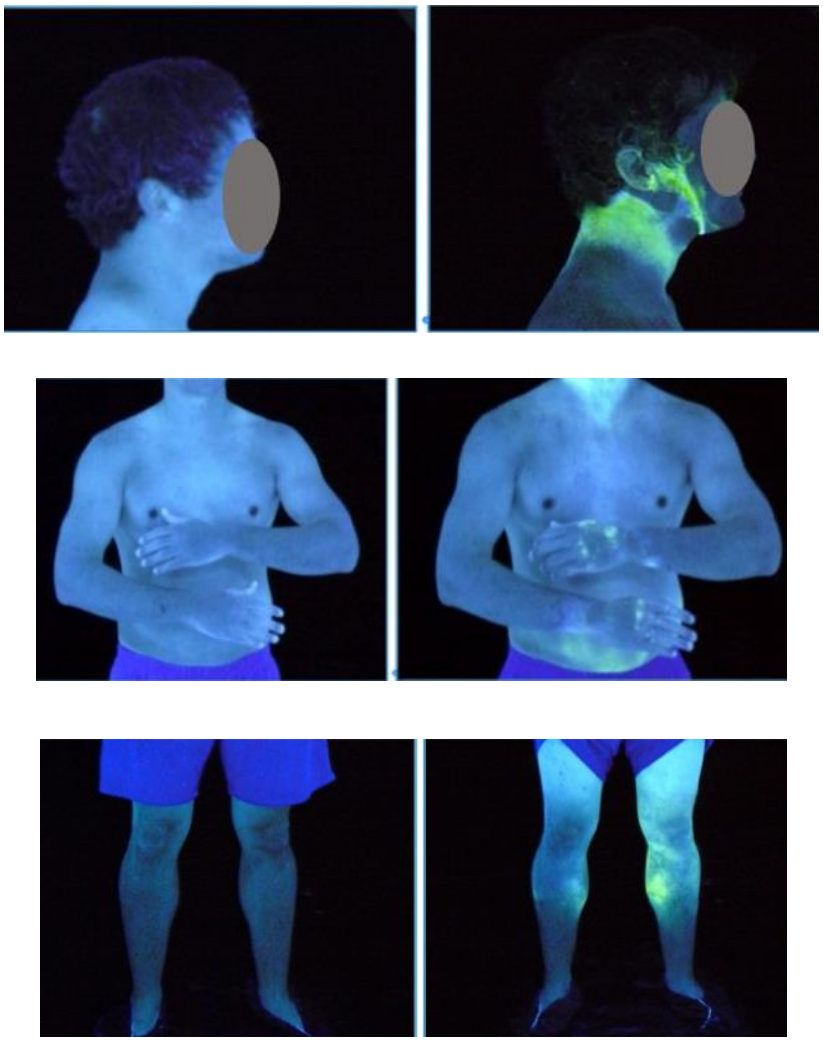
Use of Self-Contained Breathing Apparatus (SCBA) has become the gold standard of respiratory protection during fire ground operations. Policies mandating the use of SCBA have been adopted by both career and volunteer departments nationwide. Studies have shown that the use of SCBA can eliminate or significantly decrease respiratory exposure to toxic particles during firefighting, but SCBA use is not enough. Firefighters are still at risk of absorbing the toxic products of combustion through the skin. Furthermore, while SCBA may be worn during active interior firefighting, the use of SCBA during overhaul is less common. During overhaul, firefighters can be exposed to toxic agents through the disassembly of walls, hooking of ceilings, removal of furniture, and by the off-gassing of burnt or smoldering material.

Modern day structural firefighter protective clothing (SFPC) offers great enhancements over the protective gear worn by previous generations. Between SCBA, helmets, hoods, coats, pants, boots, and gloves, encapsulated firefighters are afforded great protection from the hazardous, high heat environments of structure fires. While the multiple layers of gear provide protection against thermal insult, they cannot prevent the toxic smoke and gases from seeping through and depositing soot upon the skin. The intense heat only adds to the danger of exposure to toxic chemicals - with every 5 degrees in increased body temperature, skin absorption rates can increase by as much 400%.



SFPC was designed to protect firefighters from extremes of heat, not to protect against direct exposure to toxic soot. Even when worn properly, direct skin contamination inevitably occurs. This was clearly demonstrated during the IAFF study of particle exposure testing which used fluorescent silica powder to simulate microscopic smoke particulates. Throughout the test, the firefighter was encapsulated in a full SFPC ensemble including SCBA. Prior to doffing, the

exterior garments underwent gross decontamination to ensure cross-contamination did not occur. The photos clearly show the amount of accumulation that occurred on the skin despite use of full and proper PPE.



The Inherent Risk of Gear Off-Gassing

Risk does not end once crews leave the fire ground. As operations conclude, the soot covered gear which provided protection in the immediately dangerous to life or health (IDLH) environment begins to pose a risk to firefighters by prolonging exposure to carcinogens. Studies have confirmed that when PPE becomes coated in the toxic agents encountered during firefighting, the gear itself can continue to transfer and off-gas contaminants long after the incident has ended. The danger of off-gassing becomes heightened when career or volunteer firefighters transport or store their gear in their personal vehicles.

Furthermore, the International Agency for Research on Cancer (IARC) has identified diesel exhaust as being associated with increased cancer risk. This means firefighters may be placed at an increased risk before they ever leave their stations. SFPC is commonly stored in the apparatus bay near response apparatus and, as such, the gear can continue to accumulate contaminants over time. SFPC, designed to protect the firefighters from the inherent risks of the IDLH, may be inadvertently exposing firefighters to carcinogens and increasing their risk of developing cancer.

Common Fire Ground Carcinogens

Potentially cancer-causing agents identified with firefighting operations include, but are not limited to:

CHEMICAL	USES
Asbestos*	A heat-resistant fibrous silicate mineral that can be woven into fabrics, and is used in fire-resistant and insulating materials such as brake linings
Arsenic	Arsenic-related compounds and alloys have been used in the manufacture of a wide variety of products including pesticides, wood preservatives, and glass products
Benzene*	Is found in diesel exhaust, furniture wax, and common building materials (e.g., paints, adhesives, etc.)
Benzopyrene*	Is generated as a result of incomplete combustion of organic materials
Polycyclic Aromatic Hydrocarbons*	Is generated as a result of vehicle exhaust and incomplete combustion of wood or other mixed organic materials
Cadmium	Commonly used as a corrosion-resistant plating on steel, to color glass, and to stabilize plastics
Chlorophenols	Some chlorophenols are used as pesticides, in antiseptics, and can be produced during the process of bleaching wood pulp to make paper
Chromium	Chromium compounds are used for chrome plating, in dyes and pigments, in leather tanning, as wood preserving corrosion inhibitors and in textiles
Carbon Monoxide	Carbon monoxide is an odorless, colorless, tasteless gas produced as a result of incomplete combustion
Dioxins*	Commonly released when items containing PVC, such as vinyl flooring, vinyl wallpaper, shower curtains, window frames, electrical equipment and Venetian blinds, are burned
Ethylene Oxide	Found in a variety of detergents, thickeners, solvents, and plastics
Formaldehyde*	Commonly found in cleaning materials and engineered wood-base material such as medium density fiberboard (MDF)
Glutaraldehyde	Used in the tanning process of leather, as a component in cleaning agents, and in the production of adhesives and sealants
Hydrogen Cyanide	Used in the manufacture of synthetic fibers
Orthotoluide	Used in the manufacture of more than 90 dyes and pigments and in synthetic rubbers
Polychlorinated Biphenyls*	Used in electrical equipment (e.g., capacitors), plasticizers, and lubricants
Sulfur Dioxide	Is produce by burning materials containing sulfur, such as household and personal cleaning products
Vinyl Chloride*	Is used to produce PVC and can be found in furniture, upholstery, wall coverings, and housewares

*These agents have been classified as “Carcinogenic to Humans” by either the IARC or EPA.

Cancers Commonly Associated with Firefighting

Studies have found that firefighting is associated with an increased risk for development of:

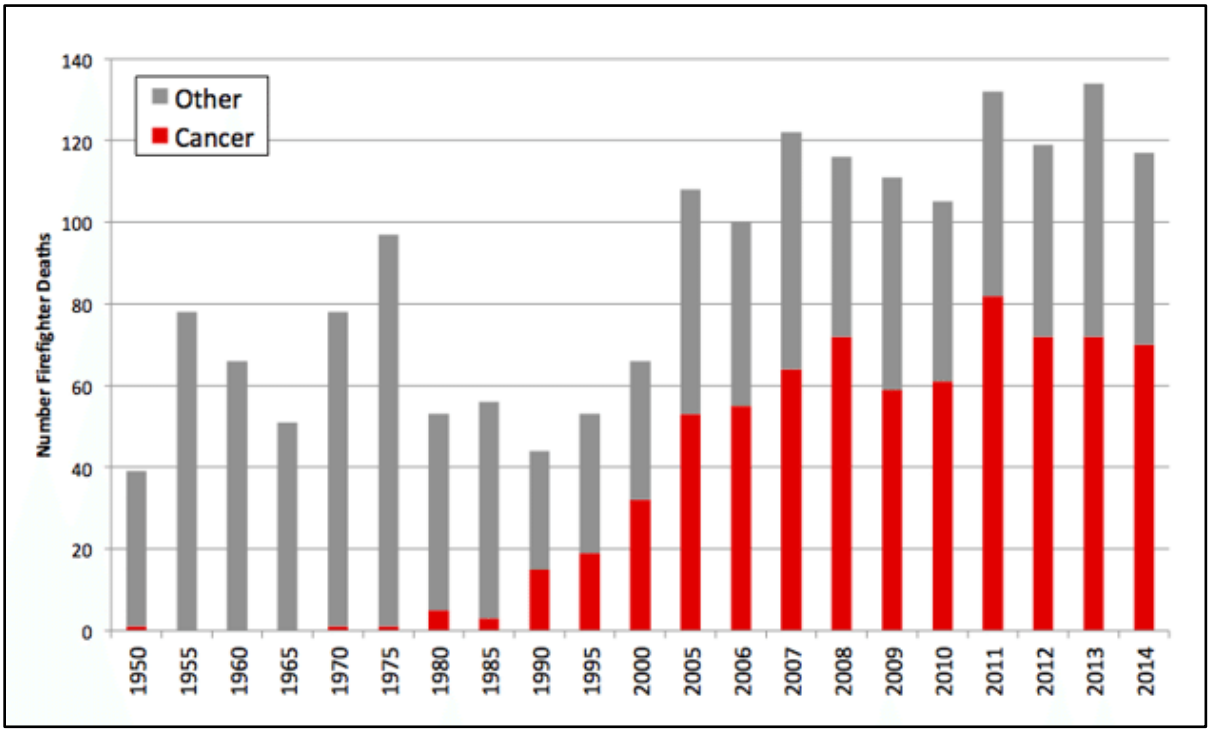
Bladder Cancer	Non-Hodgkin Lymphoma
Brain Cancer	Melanoma
Gastrointestinal Cancers	Myeloma
Leukemia	Prostate Cancer
Lung Cancer	Testicular Cancer
Kidney Cancer	Urinary Cancer

As a result, a growing number of states have adopted presumptive cancer legislation to provide firefighters with workers' compensation benefits should they develop a cancer associated with job-related exposures (see a comprehensive list here).

Gender Specific Risks for Female Firefighters

There is a recognized need for research examining gender specific cancers for women in the fire service. Due to the historically small sample size of female firefighters, gender specific risks have not been definitively established yet. However, the number of women, and their length of tenure in the fire service, continues to grow. Between ongoing scientific research and knowledge sharing, progress is being made to protect this subset of the firefighting community.

Rise in Firefighter Cancer Deaths Since 1950



CANCER QUICK STATS

- **Firefighters have a greater number of cancer diagnoses and cancer-related deaths than the general U.S. population**
- **Cancer is a leading cause of firefighter deaths in the United States**
- **Approximately 60% of career firefighters will die because of cancer**
- **Studies have shown that firefighters have increased risk of certain cancers the longer they spend working in the fire service**
- **Heat from structure fires adds to the danger of exposure to toxic chemicals - with every 5 degrees in increased body temperature, skin absorption rates can increase by as much 400%**

RESEARCH

Resource 1.1: A Study of Cancer Among United States Firefighters

In 2010, National Institute for Occupational Safety and Health (NIOSH) set out to conduct a comprehensive multi-year study which included over 30,000 firefighters from the Chicago, Philadelphia and San Francisco Fire Departments employed between 1950 and 2010. The researchers considered a multitude of factors as they set out to examine if firefighters have an increased risk of developing cancer as a result of job-related exposures. The study found that firefighters did, in fact, have a greater risk of cancer diagnosis and death, especially with cancers relating to the respiratory, digestive and genitourinary systems. View the findings here. A comprehensive review of study documents and timelines can be viewed here.

https://www.cdc.gov/niosh/firefighters/ffcancerstudy.html

https://www.cdc.gov/niosh/pgms/worknotify/pdfs/ff-cancer-factsheet-final.pdf

Resource 1.2: Cohort Mortality Study of Philadelphia Firefighters

Firefighters are exposed to a wide variety of toxic chemicals. Previous studies have reported excess risk of some cancers but have been limited by small numbers or little information on employment characteristics. This is a retrospective cohort mortality study among 7,789 Philadelphia firefighters employed between 1925 and 1986. Through review of the data, there was increased mortality for cancers of the colon and kidney, non-Hodgkin lymphoma, and multiple myeloma. (2001)

http://onlinelibrary.wiley.com/doi/10.1002/ajim.1040/abstract

Resource 1.3: Risk of Cancer Among Firefighters in California, 1988–2007

This is one of the first studies to include an examination of firefighter risk for subtypes of leukemia, esophageal cancer and lung cancer, and cancer risks among firefighters of multiple races/ethnicities. The study sample included 3,996 firefighters. Among the 32 examined cancers, 3 were significantly elevated among all firefighters combined and among firefighters in all race groups. These 3 cancers were melanoma, prostate cancer, and brain cancer. Three cancers were significantly elevated among all firefighters combined: adenocarcinoma of the esophagus; non-specific, non-small cell lung cancer; and, acute myeloid leukemia (AML). Three cancers were significantly elevated among all firefighters combined and firefighters of within defined race/ethnic groups: kidney cancer, multiple myeloma, and overall leukemia. There were six cancers that were significantly elevated among firefighters of the defined race/ethnic groups only: tongue cancer, testicular cancer, bladder cancer, non-Hodgkin lymphoma, chronic lymphocytic leukemia (CLL), and chronic myeloid leukemia (CML).

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4527530/

Resource 1.4: Taking Action Against Cancer in the Fire Service

In 2013, the Firefighter Cancer Support Network assembled a team of experts with the goal of developing a white paper examining the issue of cancer within the fire service. This report addresses prevention, diagnosis, treatment, and the long-term implications for the firefighter, the firefighter's family, their coworkers, the fire department and community policy. (2013)

https://firefightercancersupport.org/wp-content/uploads/2013/08/Taking-Action-against-Cancer-in-the-Fire-Service.pdf

Resource 1.5: Cancer Risk Among Firefighters: A Review and Meta-Analysis of 32 Studies

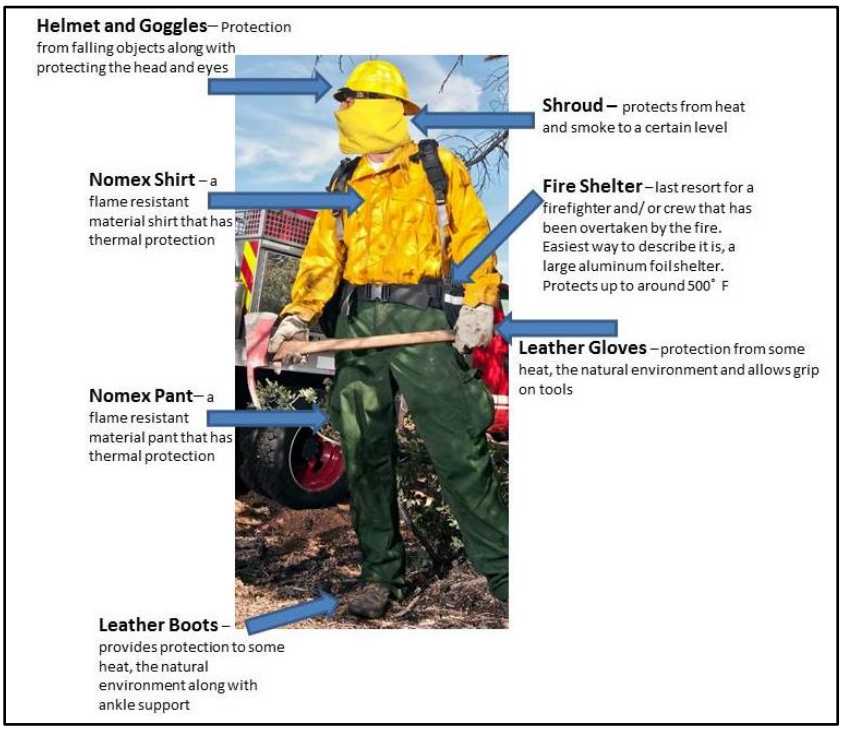
The objective of this study was to review 32 studies on firefighters and to quantitatively and qualitatively determine the cancer risk using a meta-analysis. The results confirm previous findings of an elevated risk for multiple myeloma among firefighters. In addition, a probable association with non-Hodgkin lymphoma, prostate, and testicular cancer was demonstrated. (2006)

http://www.iaff.org/hs/PDF/Cancer%20Risk%20Among%20Firefighters%20-%20UC%20Study.pdf

Resource 1.6: Understanding the Health Hazards of Smoke for Wildland Firefighters

The Fire Sciences Laboratory in Missoula conducted a series of laboratory and field studies to determine the components of vegetative smoke and conducted studies of employee exposure at prescribed and wildland fires. A list of recommendations for risk management was developed, including training and tactics, monitoring, health maintenance, respiratory protection, medical surveillance, and additional research. (2006)

https://www.firerescue1.com/fire-products/fire-breathing-apparatus/air-products/articles/15007-Understanding-the-Health-Hazards-of-Smoke-for-Wildland-Firefighters/



Resource 1.7: Final Report Australian Firefighters' Health Study

The aims of this study were to examine mortality and cancer among firefighters and investigate different subgroups, based on type of employment, duration of firefighting service, era of first employment/service, serving before/including or only after 1985, by the number of incidents attended and whether an individual was identified as having been a trainer. For male career full-time firefighters compared to the Australian population, overall cancer incidence was significantly raised for the group as a whole and for those who had worked for longer than 20 years. (2014)

http://www.coeh.monash.org/downloads/finalreport2014.pdf

Resource 1.8: Cancer Morbidity of Professional Emergency Responders in Korea

Many professional emergency responders (ERs) who belong to the Korean National Emergency Management Agency (NEMA) have been cross-trained and serve multiple roles. As such, firefighters and other ERs in Korea are exposed to similar occupational hazards. This study was conducted to estimate cancer morbidity in male ERs and compare that with Korean men. Korean firefighters showed excess morbidity in several cancer types, including colorectal and urologic cancers, and non-Hodgkin lymphoma, demonstrating similar trends to previous studies for firefighters conducted in other countries. (2012)

https://www.ncbi.nlm.nih.gov/pubmed/22628010

OCCUPATIONAL CANCER LEGISLATION

Generally, in the case of work-related illness or injury, the burden is placed on the worker to prove their ailment is a result of occupational exposures. With the advent of presumptive legislation, that burden shifts; the employer must prove that the firefighter's working conditions were not a significant contributing factor to the development of cancer. With presumptive legislation, the line-of-duty claim, and subsequent benefits, can be automatically approved as long as the specific criteria are met under the state's regulations.

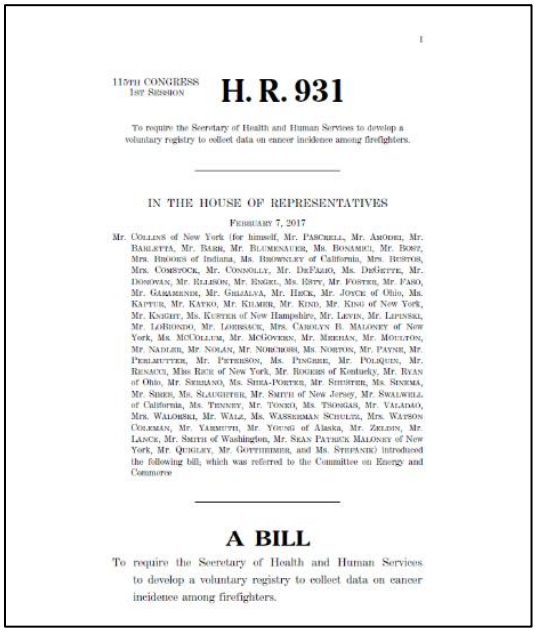
A majority of states now cover firefighters for one or more cancers under workers' compensation because of presumptive legislation. In many states, the presumptive legislation contains broad or nonspecific language that can be interpreted to cover any cancer experienced by a firefighter. In other states, only specific cancers are covered. Most commonly those are leukemia, non-Hodgkin lymphoma, brain cancer, bladder cancer, and gastrointestinal cancer.

In states where presumptive legislation has been implemented, records of occupational exposure have played an often-critical role in ensuring a diagnosis of cancer is covered by workers' compensation. This underscores the importance of agency-wide, comprehensive exposure tracking systems. At a minimum, firefighters can, and should, maintain a record of their own individual exposures.

Federal Regulations

Firefighter Cancer Registry Act of 2017

H.R. 931 would establish that the Secretary of Health and Human Services, acting through the Director of the Centers for Disease Control and Prevention, shall develop and maintain a voluntary registry of firefighters to collect relevant history and occupational information that can be linked to available cancer registry data collected by existing state cancer registries.



115TH CONGRESS
1ST SESSION

H. R. 931

To require the Secretary of Health and Human Services to develop a voluntary registry to collect data on cancer incidence among firefighters.

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 7, 2017

Mr. COLLINS of New York (for himself, Mr. PASCRELL, Mr. AMODEI, Mr. BARLETTA, Mr. BASS, Mr. BLUMENAUER, Ms. BONAMICI, Mr. BOST, Mrs. BROOKS of Indiana, Ms. BROWNLEY of California, Mrs. BUSTOS, Mrs. COMSTOCK, Mr. CONNOLLY, Mr. DEFAZIO, Ms. DELAURO, Mr. DONOVAN, Mr. ELLISON, Mr. ENGEL, Ms. ESTY, Mr. FOSTER, Mr. FASO, Mr. GARAMENDI, Mr. GALLEGO, Mr. HECK, Mr. JOYCE of Ohio, Ms. KAPTUR, Mr. KATKO, Mr. KILMER, Mr. KIND, Mr. KING of New York, Mr. KNIGHT, Ms. KUSTER of New Hampshire, Mr. LEVIN, Mr. LIPINSKI, Mr. LOBIONDO, Mr. LOEBSACK, Mrs. CAROLYN B. MALONEY of New York, Ms. MCCOLLUM, Mr. MCGOVERN, Mr. MEEHAN, Mr. MOULTON, Mr. NADLER, Mr. NOLAN, Mr. NORCROSS, Ms. NORTON, Mr. PAYNE, Mr. PERLMUTTER, Mr. PETERSON, Ms. PINGREE, Mr. POLIQUIN, Mr. RENACCI, Miss RICE of New York, Mr. ROGERS of Kentucky, Mr. RYAN of Ohio, Mr. SERRANO, Ms. SEWELL of Alabama, Mr. SHUSTER, Ms. SINEMA, Mr. SIRES, Ms. SLAUGHTER, Mr. SMITH of New Jersey, Mr. SWALWELL of California, Ms. TENNEY, Mr. TONKO, Ms. TSONGAS, Mr. VALADAO, Mrs. WALORSKI, Mr. WALZ, Ms. WASSERMAN SCHULTZ, Mrs. WATSON COLEMAN, Mr. YARMUTH, Mr. YOUNG of Alaska, Mr. ZELDIN, Mr. LANCE, Mr. SMITH of Washington, Mr. SEAN PATRICK MALONEY of New York, Mr. QUIGLEY, Mr. GOTTHEIMER, and Ms. STEFANIK) introduced the following bill; which was referred to the Committee on Energy and Commerce

A BILL

To require the Secretary of Health and Human Services to develop a voluntary registry to collect data on cancer incidence among firefighters.

James Zadroga 9/11 Health and Compensation Reauthorization Act of 2015

This legislation was named after James Zadroga, a New York Police Department officer who developed and died from cancer-related to toxic exposures encountered during response to the September 11, 2001 terrorist attacks. This bill was passed by Congress in 2010, was signed by President Obama in 2011, and was reauthorized in 2015 with coverage guaranteed through 2090. The law provides funding for first responders and survivors who experience health complications due to the terrorist attacks.

EXAMINING H.R. 1786, THE JAMES ZADROGA 9/11 HEALTH AND COMPENSATION REAUTHORIZATION ACT

HEARING

BEFORE THE

SUBCOMMITTEE ON HEALTH

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTEENTH CONGRESS

FIRST SESSION

JUNE 15, 2015

Serial No. 114-52

CANCER PRESUMPTIVE LEGISLATION BY STATE

STATE	CANCER PRESUMPTIVE LANGUAGE
Alabama	Cancer which manifests itself in a firefighter during the period in which the firefighter is in the service of the city, provided the firefighter demonstrates that he or she was exposed, while in the employ of the city, to a known carcinogen which is reasonably linked to the disabling cancer, and the cancer shall be presumed to arise out of and in the course of the firefighter's employment unless the city demonstrates by a preponderance of the evidence that the cancer was caused by some other means.
Alaska	There is a presumption that a claim for compensation for disability as a result of the following diseases is within the provisions of this chapter: brain cancer, malignant melanoma, leukemia, non-Hodgkin's lymphoma, bladder cancer, ureter cancer, kidney cancer and prostate cancer.
Arizona	Notwithstanding subsection A of this section and § 23-1043.01, any disease, infirmity or impairment of a firefighter's or peace officer's health that is caused by brain, bladder, rectal or colon cancer, lymphoma, leukemia or adenocarcinoma or mesothelioma of the respiratory tract and that results in disability or death is presumed to be an occupational disease as defined in § 23-901, paragraph 13, subdivision (c) and is deemed to arise out of employment.
California	The term "injury," as used in this division, includes cancer, including leukemia, that develops or manifests itself during a period in which any member described in subdivision (a) is in the service of the department or unit, if the member demonstrates that he or she was exposed, while in the service of the department or unit, to a known carcinogen as defined by the International Agency for Research on Cancer, or as defined by the director.
Colorado	Death, disability, or impairment of health of a firefighter of any political subdivision who has completed five or more years of employment as a firefighter, caused by cancer of the brain, skin, digestive system, hematological system, or genitourinary system and resulting from his or her employment as a firefighter, shall be considered an occupational disease.
Connecticut	For the purpose of adjudication of claims for payment of benefits under the provisions of chapter 568 of the general statutes, a uniformed member of a paid municipal or volunteer fire department, a regular member of a paid municipal police department or constable, as defined in section 31-294i of the general statutes or a member of a volunteer ambulance service shall be eligible for such benefits for any disease arising out of and in the course of employment, including, but not limited to, hepatitis, meningococcal meningitis, tuberculosis, Kahler's Disease, non-Hodgkin's lymphoma, and prostate or testicular cancer that results in death or temporary or permanent total or partial disability.

STATE	CANCER PRESUMPTIVE LANGUAGE
Georgia	Any firefighter who, while a dues-paying member of this fund, is rendered, by heart disease or respiratory disease, totally and permanently disabled so as to be unable to perform substantially all of the duties of the position to which he was regularly assigned and who, as a result of such disability, is separated from his work as a firefighter shall be entitled to the maximum monthly disability benefit in effect on the date of the filing of his application for such benefit until his disability ceases or until the happening of one or more of the events set forth in subsection (f) of this Code section, provided that: (1) Such firefighter makes application to the board for such benefit within 12 months of the date on which he is separated from his employment as a firefighter as a result of such total and permanent disability; and (2) Such firefighter shall have been a member in good standing of the fund for five consecutive years immediately prior to his application for disability.
Idaho	If a firefighter is diagnosed with one (1) or more of the following diseases after the period of employment indicated in subparagraphs (i) through (xi) of this paragraph, and the disease was not revealed during an initial employment medical screening examination that was performed according to such standards and conditions as may be established at the sole discretion of the governing board having authority over a given fire district, fire department, or fire brigade, then the disease shall be presumed to be proximately caused by the firefighter's employment as a firefighter: (i) Brain cancer after ten (10) years; (ii) Bladder cancer after twelve (12) years; (iii) Kidney cancer after fifteen (15) years; (iv) Colorectal cancer after ten (10) years; (v) Non-Hodgkin lymphoma after fifteen (15) years; (vi) Leukemia after five (5) years; (vii) Mesothelioma after ten (10) years; (viii) Testicular cancer after five (5) years if diagnosed before the age of forty (40) years with no evidence of anabolic steroids or human growth hormone use; (ix) Breast cancer after five (5) years if diagnosed before the age of forty (40) years without a breast cancer 1 or breast cancer 2 genetic predisposition to breast cancer; (x) Esophageal cancer after ten (10) years; and (xi) Multiple myeloma after fifteen (15) years.
Indiana	As used in this chapter, "at risk for occupational exposure" means that an individual incurs risk in performing the basic duties of the individual's employment, including: providing emergency medical treatment in a nonhealth care setting where there is a potential for contact with; working at the scene of an accident, a fire, or another rescue or public safety operation, or working in an emergency rescue vehicle or a public safety vehicle, during which the individual has contact with; engaging in the pursuit, apprehension, and arrest of law violators, during which the individual may be exposed to; or maintaining custody and physical restraint of prisoners or inmates of a prison, a jail, or another criminal detention facility, during which the individual may be exposed to; a known carcinogen or a substance or condition that adversely affects an individual's cardiovascular or respiratory system. Sec. 4. As used in this chapter, "exposure related cancer" refers to a cancer that is caused by a known carcinogen to which an individual is at risk for occupational exposure.

STATE	CANCER PRESUMPTIVE LANGUAGE
Kansas	"Service-connected" means with regard to a death or any physical or mental disability, any such death or disability resulting from external force, violence or disease occasioned by an act of duty as a policeman or fireman and, for any member after five years of credited service, there shall be a rebuttable presumption, that any death or disability resulting from a heart disease or disease of the lung or respiratory tract or cancer as provided in this subsection, except that in the event that the member ceases to be a contributing member by reason of a service-connected disability for a period of six months or more and then again becomes a contributing member, the provision relating to death or disability resulting from a heart disease, disease of the lung or respiratory tract or cancer as provided in this subsection shall not apply until such member has again become a contributing member for a period of not less than two years or unless clear and precise evidence is presented that the heart disease, disease of the lung or respiratory tract or cancer as provided in this subsection was in fact occasioned by an act of duty as a policeman or fireman. If the retirement system receives evidence to the contrary of such presumption, the burden of proof shall be on the member or other party to present evidence that such death or disability was service-connected. The provisions of this section relating to the presumption that the death or disability resulting from cancer is service-connected shall only apply if the condition that caused the death or disability is a type of cancer which may, in general, result from exposure to heat, radiation or a known carcinogen.
Louisiana	Because of exposure to heat, smoke, and fumes or carcinogenic, poisonous, toxic, or chemical substances, when a firefighter in the classified service who has completed ten or more years of service is unable to perform his regular duties in the fire service in this state by reason of a disabling cancer, such cancer shall be classified as an occupational disease or infirmity connected with the duties of a firefighter. The disease or infirmity shall be presumed to have been caused by or to have resulted from the work performed. This presumption shall be rebuttable by evidence meeting judicial standards, and shall be extended to a member following termination of service for a period of three months for each full year of service not to exceed sixty months commencing with the last actual date of service. B. The disabling cancer referred to in Subsection A shall be limited to the types of cancer which may be caused by exposure to heat, smoke, radiation, or a known or suspected carcinogen as defined by the International Agency for Research on Cancer. The disabling cancer shall also be limited to a cancer originating in the bladder, brain, colon, liver, pancreas, skin, kidney, or gastrointestinal tract, and leukemia, lymphoma, multiple and myeloma.

STATE	CANCER PRESUMPTIVE LANGUAGE
Maryland	A paid firefighter, paid firefighting instructor, or a sworn member of the Office of the State Fire Marshal employed by an airport authority, a county, a fire control district, a municipality, or the State or a volunteer firefighter, volunteer firefighting instructor, volunteer rescue squad member, or volunteer advanced life support unit member who is a covered employee under § 9-234 of this title is presumed to be suffering from an occupational disease that was suffered in the line-of-duty and is compensable under this title if the individual: (1) has leukemia or pancreatic, prostate, rectal, or throat cancer that is caused by contact with a toxic substance that the individual has encountered in the line-of-duty; (2) has completed at least 5 years of service as a firefighter, firefighting instructor, rescue squad member, or advanced life support unit member or in a combination of those jobs in the department where the individual currently is employed or serves; (3) is unable to perform the normal duties of a firefighter, firefighting instructor, rescue squad member, or advanced life support unit member in the department where the individual currently is employed or serves because of the cancer or leukemia disability; and (4) in the case of a volunteer firefighter, volunteer firefighting instructor, volunteer rescue squad member, or volunteer advanced life support unit member, has met a suitable standard of physical examination before becoming a firefighter, firefighting instructor, rescue squad member, or advanced life support unit member.
Massachusetts	Notwithstanding the provisions of any general or special law to the contrary, any condition of cancer affecting the skin or the central nervous, lymphatic, digestive, hematalogical, urinary, skeletal, oral or prostate systems, lung or respiratory tract, resulting in total disability or death to a uniformed member of a paid fire department, or a member of the state police assigned to the fire investigation unit of the department of fire services, or a member of the state police K?9 unit, or to any permanent crash crewman, crash boatman, fire controlman or assistant fire controlman employed at the General Edward Lawrence Logan International Airport, members of the 104th fighter wing fire department or members of the Massachusetts military reservation fire department, shall, if he successfully passed a physical examination on entry into such service or subsequent to such entry, which examination failed to reveal any evidence of such condition, be presumed to have been suffered in the line-of-duty, unless it is shown by a preponderance of the evidence that non-service connected risk factors or non-service connected accidents or hazards undergone, or any combination thereof, caused such incapacity. The provisions of this section shall only apply if the disabling or fatal condition is a type of cancer which may, in general, result from exposure to heat, radiation, or a known or suspected carcinogen as determined by the International Agency for Research on Cancer, so called.

STATE	CANCER PRESUMPTIVE LANGUAGE
Michigan	A member of a fully paid fire department or public fire authority who is in active service of the fire department or public fire authority, has been employed 60 months or more in the active service of the department or public fire authority at the time the cancer manifests itself, and is exposed to the hazards incidental to fire suppression, rescue, or emergency medical services in the performance of his or her work-related duties with the department or authority shall suspend a claim against his or her employer under this act and may claim like benefits from the first responder presumed coverage fund created under subsection (6) for any respiratory tract, bladder, skin, brain, kidney, blood, thyroid, testicular, prostate, or lymphatic cancer. The cancers described in this subsection are presumed to arise out of and in the course of employment only with respect to a claim against the fund and in the absence of non-work-related causation or specific incidents that establish a cause independent of the employment. Neither mere evidence that the condition was preexisting, nor an abstract medical opinion that the employment was not the cause of the disease or condition, is sufficient to overcome the presumption for purposes of a claim against the first responder presumed coverage fund. The presumption under this subsection may be rebutted by scientific evidence that the member of the fully paid fire department or public fire authority was a substantial and consistent user of cigarettes or other tobacco products within the 10 years immediately preceding the date of injury, and that this use was a significant factor in the cause, aggravation, or progression of the cancer.
Minnesota	A firefighter on active duty with an organized fire department who is unable to perform duties in the department by reason of a disabling cancer of a type caused by exposure to heat, radiation, or a known or suspected carcinogen, as defined by the International Agency for Research on Cancer, and the carcinogen is reasonably linked to the disabling cancer, is presumed to have an occupational disease under paragraph (a). If a firefighter who enters the service after August 1, 1988, is examined by a physician prior to being hired and the examination discloses the existence of a cancer of a type described in this paragraph, the firefighter is not entitled to the presumption unless a subsequent medical determination is made that the firefighter no longer has the cancer.
Nebraska	For a firefighter or firefighter-paramedic who is a member of a paid fire department of a municipality or a rural or suburban fire protection district in this state, including a municipality having a home rule charter, and who suffers death or disability as a result of cancer, including, but not limited to, cancer affecting the skin or the central nervous, lymphatic, digestive, hematological, urinary, skeletal, oral, or prostate systems, evidence which demonstrates that (1) such firefighter or firefighter-paramedic successfully passed a physical examination upon entry into such service or subsequent to such entry, which examination failed to reveal any evidence of cancer, (2) such firefighter or firefighter-paramedic was exposed to a known carcinogen, as defined on July 19, 1996, by the International Agency for Research on Cancer, while in the service of the fire department, and (3) such carcinogen is reported by the agency to be a suspected or known cause of the type of cancer the firefighter or firefighter-paramedic has, shall be prima facie evidence that such death or disability resulted from injuries, accident, or other cause while in the line-of-duty for the purposes of sections 16-1020 to 16-1042, a firefighter's pension plan established pursuant to a home rule charter, and a firefighter's pension or disability plan established by a rural or suburban fire protection district.

STATE	CANCER PRESUMPTIVE LANGUAGE
Nevada	Notwithstanding any other provision of this chapter, cancer, resulting in either temporary or permanent disability, or death, is an occupational disease and compensable as such under the provisions of this chapter if: (a) The cancer develops or manifests itself out of and in the course of the employment of a person who, for 5 years or more, has been: (1) Employed in this State in a full-time salaried occupation of firefighting for the benefit or safety of the public; or 2) Acting as a volunteer firefighter in this State and is entitled to the benefits of chapters 616A to 616D, inclusive, of NRS pursuant to the provisions of NRS 616A.145; and (b) It is demonstrated that:(1) The person was exposed, while in the course of the employment, to a known carcinogen as defined by the International Agency for Research on Cancer or the National Toxicology Program; and (2) The carcinogen is reasonably associated with the disabling cancer.
New Hampshire	Notwithstanding the provisions of RSA 281-A:2, XI and XIII, 16 and 27, there shall exist a prima facie presumption that cancer disease in a firefighter, whether a regular, call, volunteer, or retired member of a fire department, is occupationally-related. In order to receive this occupational cancer disability benefit, the type of cancer involved must be a type which may be caused by exposure to heat, radiation, or a known or suspected carcinogen as defined by the International Agency for Research on Cancer. However: (a) A call or volunteer firefighter shall have the benefit of this prima facie presumption only if there is on record reasonable medical evidence that such firefighter was free of such disease at the beginning of his or her employment. It shall be the duty of the employer of call or volunteer firefighters to provide the required reasonable medical evidence. If the employer fails to do so, the call or volunteer firefighter shall have the benefit of the prima facie presumption regardless of the absence of said reasonable medical evidence. (b) A retired firefighter who agrees to submit to any physical examination requested by his city, town, or precinct shall have the benefit of the prima facie presumption for a period of 20 years from the effective date of such firefighter's retirement.
New Mexico	If a firefighter is diagnosed with one or more of the following diseases after the period of employment indicated, which disease was not revealed during an initial employment medical screening examination or during a subsequent medical review pursuant to the Occupational Health and Safety Act [50-9-1 through 50-9-25 NMSA 1978] and rules promulgated pursuant to that act, the disease is presumed to be proximately caused by employment as a firefighter: (1) brain cancer after ten years; (2) bladder cancer after twelve years; (3) kidney cancer after fifteen years; (4) colorectal cancer after ten years; (5) non-Hodgkin lymphoma after fifteen years; (6) leukemia after five years; (7) ureter cancer after twelve years; (8) testicular cancer after five years if diagnosed before the age of forty with no evidence of anabolic steroids or human growth hormone use; (9) breast cancer after five years if diagnosed before the age of forty without a breast cancer 1 or breast cancer 2 genetic predisposition to breast cancer; (10) esophageal cancer after ten years; (11) multiple myeloma after fifteen years; and (12) hepatitis, tuberculosis, diphtheria, meningococcal disease and methicillin-resistant staphylococcus aureus appearing and diagnosed after entry into employment.

STATE	CANCER PRESUMPTIVE LANGUAGE
New York	Notwithstanding any other provisions of this chapter to the contrary, any (i) melanoma or (ii) condition of cancer affecting the lymphatic, digestive, hematological, urinary, neurological, breast, reproductive, or prostate systems, resulting in total or partial disability or death to a paid firefighter, who successfully passed a physical examination on entry into firefighter service, which examination failed to reveal any evidence of such melanoma or condition, shall be presumptive evidence that, unless the contrary be proven by competent evidence, such disability or death (a) was caused by the natural and proximate result of an accident, not caused by such firefighter's own willful negligence, and (b) was sustained in the performance and discharge of duty.
North Dakota	Presumption of compensability for certain conditions of full-time paid fire fighters and law enforcement officers. Any condition or impairment of health of a full-time paid fire fighter or law enforcement officer caused by lung or respiratory disease, hypertension, heart disease, or an exposure to a bloodborne pathogen as defined by section 23-07.5-01 occurring in the course of employment, or occupational cancer in a full-time paid fire fighter, resulting in total or partial disability or death is presumed to have been suffered in the line-of-duty. The condition or impairment of health may not be attributed to any disease existing before that total or partial disability or death unless the contrary is shown by competent evidence. As used in this section, an occupational cancer is one which arises out of employment as a full-time paid fire fighter and is due to injury due to exposure to smoke, fumes, or carcinogenic, poisonous, toxic, or chemical substances while in the performance of active duty as a full-time paid fire fighter. A full-time paid fire fighter or law enforcement officer is not eligible for the benefit provided under this section unless that full-time paid fire fighter or law enforcement officer has completed five years of continuous service and has successfully passed a medical examination which fails to reveal any evidence of such a condition.
Ohio	If a firefighter or police officer makes application for a finding and the administrator finds that the firefighter or police officer has contracted a cardiovascular and pulmonary disease as defined in division (W) of section 4123.68 of the Revised Code, and that a change of the firefighter's or police officer's occupation is medically advisable in order to decrease substantially further exposure to smoke, toxic gases, chemical fumes, and other toxic vapors, and if the firefighter, or police officer, after the finding, has changed or changes occupation to an occupation in which the exposure to smoke, toxic gases, chemical fumes, and other toxic vapors is substantially decreased, the administrator shall allow to the firefighter or police officer an amount equal to fifty per cent of the statewide average weekly wage per week for a period of thirty weeks, commencing as of the date of the discontinuance or change, and for a period of seventy-five weeks immediately following the expiration of the period of thirty weeks the administrator shall allow the firefighter or police officer sixty-six and two-thirds per cent of the loss of wages resulting directly and solely from the change of occupation but not to exceed a maximum of an amount equal to fifty per cent of the statewide average weekly wage per week.

STATE	CANCER PRESUMPTIVE LANGUAGE
Oklahoma	No firefighter shall be retired, as provided in Section 49-109 of this title, or receive any pension from the System, unless there shall be filed with the State Board certificates of the firefighter's disability. Any member of the fire department of any municipality who is disabled as a result of heart disease, injury to the respiratory system, infectious disease, or the existence of any cancer which heart disease, injury to the respiratory system, infectious disease, or cancer was not revealed by the physical examination passed by the member upon entry into the department, shall be presumed to have incurred the heart disease, injury to the respiratory system, infectious disease, or cancer while performing the firefighter's duties as a member of such department unless the contrary is shown by competent evidence.
Oregon	Death, disability or impairment of health of a nonvolunteer firefighter employed by a political division or subdivision who has completed five or more years of employment as a nonvolunteer firefighter is an occupational disease if the death, disability or impairment of health: (A) Is caused by brain cancer, colon cancer, stomach cancer, testicular cancer, prostate cancer, multiple myeloma, non-Hodgkin lymphoma, cancer of the throat or mouth, rectal cancer, breast cancer or leukemia.
Pennsylvania	Compensation pursuant to cancer suffered by a firefighter shall only be to those firefighters who have served four or more years in continuous firefighting duties, who can establish direct exposure to a carcinogen referred to in section 108(r) [FN1] relating to cancer by a firefighter and have successfully passed a physical examination prior to asserting a claim under this subsection [FN2] or prior to engaging in firefighting duties and the examination failed to reveal any evidence of the condition of cancer. The presumption of this subsection may be rebutted by substantial competent evidence that shows that the firefighter's cancer was not caused by the occupation of firefighting. Any claim made by a member of a volunteer fire company shall be based on evidence of direct exposure to a carcinogen referred to in section 108(r) as documented by reports filed pursuant to the Pennsylvania Fire Information Reporting System and provided that the member's claim is based on direct exposure to a carcinogen referred to in section 108(r).
Rhode Island	Any fire fighter, including one employed by the state, or a municipal fire fighter employed by a municipality that participates in the optional retirement for police officers and fire fighters, as provided in chapter 21.2 of this title, who is unable to perform his or her duties in the fire department by reason of a disabling occupational cancer or pulmonary coronary disease which develops or manifests itself during a period while the fire fighter is in the service of the department, and any retired member of the fire department of any city or town who develops occupational cancer, or pulmonary coronary disease is entitled to receive an occupational cancer or pulmonary disease or coronary disease disability, and he or she is entitled to all of the benefits provided for in chapters 19, 21 and 21.2 of this title and chapter 10 of title 36 if the fire fighter is employed by the state.

STATE	CANCER PRESUMPTIVE LANGUAGE
South Carolina	Notwithstanding the provisions of this chapter, for purposes of the South Carolina Workers' Compensation Law, any impairment or injury to the health of a firefighter caused by heart disease or respiratory disease resulting in total or partial disability or death is presumed to have arisen out of and in the course of employment, unless the contrary is shown by competent evidence, if the firefighter is at the time of such impairment or injury a bona fide member of a municipal, county, state, port authority, or fire control district fire department in this State.
South Dakota	Pension allowed firefighters for impairment caused by cancer. A pension may be allowed pursuant to § 9-16-3.2 for any condition of impairment of health caused by cancer resulting in total or partial disability to an officer or member of a fire department who, upon entering such service, successfully passed a physical examination which failed to reveal any evidence of such condition.
Tennessee	Any county with a metropolitan form of government with a population of four hundred thousand (400,000) or more, according to the 1980 federal census or any subsequent federal census, that maintains a regular fire department manned by regular and full-time employees, and has established or hereafter establishes any form of compensation, other than workers' compensation, to be paid to such firefighters for any condition or impairment of health that results in loss to life or personal injury in the line-of-duty or course of employment, may establish by ordinance a presumption that any impairment of health of such firefighter caused by disease or cancer resulting in hospitalization, medical treatment or any disability, shall be presumed, unless the contrary is shown by competent medical evidence, to have occurred or to be due to accidental injury suffered in the course of employment.
Texas	A firefighter or emergency medical technician who suffers from cancer resulting in death or total or partial disability is presumed to have developed the cancer during the course and scope of employment as a firefighter or emergency medical technician if: (1) the firefighter or emergency medical technician: (A) regularly responded on the scene to calls involving fires or firefighting; or (B) regularly responded to an event involving the documented release of radiation or a known or suspected carcinogen while the person was employed as a firefighter or emergency medical technician; and (2) the cancer is known to be associated with firefighting or exposure to heat, smoke, radiation, or a known or suspected carcinogen, as described by Subsection (b). (b) This section applies only to a type of cancer that may be caused by exposure to heat, smoke, radiation, or a known or suspected carcinogen as determined by the International Agency for Research on Cancer.

STATE	CANCER PRESUMPTIVE LANGUAGE
Vermont	In the case of a firefighter, as defined in 20 V.S.A. § 3151(3) and (4), who dies or has a disability from a cancer listed in subdivision (iv) of this subdivision (E), the firefighter shall be presumed to have had the cancer as a result of exposure to conditions in the line-of-duty, unless it is shown by a preponderance of the evidence that the cancer was caused by nonservice-connected risk factors or nonservice-connected exposure, provided: (i) The firefighter completed an initial and any subsequent cancer screening evaluations as recommended by the American Cancer Society based on the age and sex of the firefighter prior to becoming a firefighter or within two years of July 1, 2007, and the evaluation indicated no evidence of cancer. (ii) The firefighter was engaged in firefighting duties or other hazardous activities over a period of at least five years in Vermont prior to the diagnosis. (iii) The presumption shall not apply to any firefighter who has used tobacco products at any time within 10 years of the date of diagnosis. (iv) The disabling cancer shall be limited to leukemia, lymphoma, or multiple myeloma, and cancers originating in the bladder, brain, colon, gastrointestinal tract, kidney, liver, pancreas, skin, or testicles.
Virginia	Leukemia or pancreatic, prostate, rectal, throat, ovarian or breast cancer causing the death of, or any health condition or impairment resulting in total or partial disability of, any volunteer or salaried firefighter, Department of Emergency Management hazardous materials officer, commercial vehicle enforcement officer or motor carrier safety trooper employed by the Department of State Police, or full-time sworn member of the enforcement division of the Department of Motor Vehicles having completed 12 years of continuous service who has a contact with a toxic substance encountered in the line-of-duty shall be presumed to be an occupational disease, suffered in the line-of-duty, that is covered by this title, unless such presumption is overcome by a preponderance of competent evidence to the contrary. For the purposes of this section, a "toxic substance" is one which is a known or suspected carcinogen, as defined by the International Agency for Research on Cancer, and which causes, or is suspected to cause, leukemia or pancreatic, prostate, rectal, throat, ovarian or breast cancer.
Washington	In the case of firefighters as defined in *RCW 41.26.030(4)(a), (b), and (c) who are covered under Title 51 RCW and firefighters, including supervisors, employed on a full-time, fully compensated basis as a firefighter of a private sector employer's fire department that includes over fifty such firefighters, there shall exist a prima facie presumption that: (a) Respiratory disease; (b) any heart problems, experienced within seventy-two hours of exposure to smoke, fumes, or toxic substances, or experienced within twenty-four hours of strenuous physical exertion due to firefighting activities; (c) cancer; and (d) infectious diseases are occupational diseases under RCW 51.08.140. This presumption of occupational disease may be rebutted by a preponderance of the evidence. Such evidence may include, but is not limited to, use of tobacco products, physical fitness and weight, lifestyle, hereditary factors, and exposure from other employment or nonemployment activities.

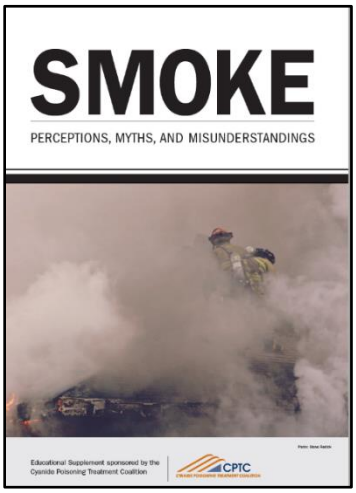
STATE	CANCER PRESUMPTIVE LANGUAGE
Wisconsin	In this section, "state, county, or municipal fire fighter" means a fire fighter who is covered under s. 891.45 and any person under s. 60.553, 61.66, or 62.13 (2e) whose duties as a fire fighter during the 10-year qualifying period specified in sub. (2) took up at least two-thirds of his or her working hours. (2) In any proceeding involving an application by a state, county, or municipal fire fighter or his or her beneficiary for disability or death benefits under s. 40.65 (2) or any pension or retirement system applicable to fire fighters, where at the time of death or filing of application for disability benefits the deceased or disabled fire fighter had served a total of 10 years as a state, county, or municipal fire fighter and a qualifying medical examination given prior to the time of his or her becoming a state, county, or municipal fire fighter showed no evidence of cancer, and where the disability or death is found to be caused by cancer, such finding shall be presumptive evidence that the cancer was caused by such employment. (3) The presumption under sub. (2) shall only apply to cancers affecting the skin, breasts, central nervous system or lymphatic, digestive, hematological, urinary, skeletal, oral or reproductive systems. (4) The presumption under sub. (2) for cancers caused by smoking or tobacco product use shall not apply to any municipal fire fighter who smokes cigarettes, as defined in s. 139.30 (1m), or who uses a tobacco product, as defined in s. 139.75 (12), after January 1, 2001.

EDUCATIONAL RESOURCES

How Modern Furniture Endangers Firefighters

Consumer goods are increasingly made of synthetic materials and coatings. The carcinogens they give off when they burn could be driving high cancer rates among first responders.

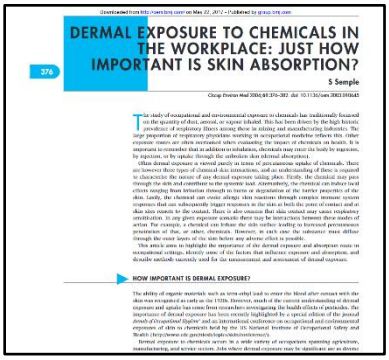
https://www.theatlantic.com/health/archive/2015/09/our-toxic-homes/404722/



Smoke: Perceptions, Myths and Misunderstandings

Typically, when someone dies in a fire, it's attributed to the nebulous cause of "smoke inhalation." In truth, it's more complicated than that - we just haven't been looking at it the right way. We haven't really digested the combustion chemistry to truly understand why the smoke is so nasty. Understanding the basics of combustion chemistry is the first step toward gaining a new respect for an old foe.

https://firefightercancersupport.org/wp-content/uploads/2013/06/smoke_perceptions_myths_and_misunderstandings.pdf



Dermal Exposure to Chemicals in the Workplace: Just How Important is Skin Absorption?

This article aims to highlight the importance of the dermal exposure and absorption route in occupational settings, identify some of the factors that influence exposure and absorption, and describe methods currently used for the measurement and assessment of dermal exposure.

http://oem.bmj.com/content/oemed/61/4/376.full.pdf

TRAINING MATERIALS

These documents have been borrowed from the listed organizations to aid in the process of policy development. If your department has developed training or policies that you are willing to share, please forward the materials to the Cancer Alliance for inclusion on this page. Together we can make a difference in the fight against cancer.

FOR FIREFIGHTERS

The IAFF Cancer Awareness & Prevention Course

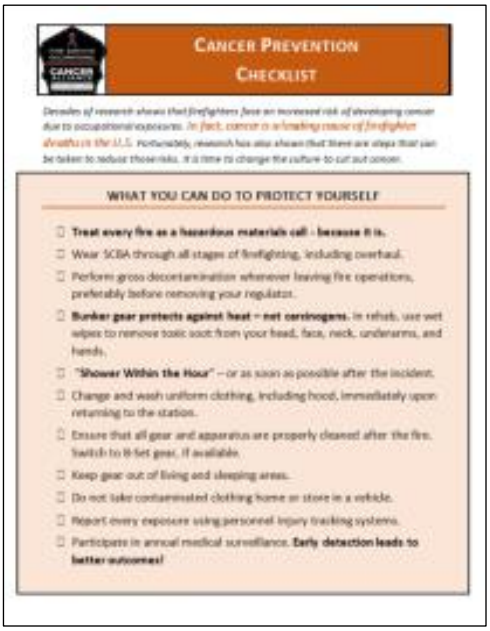
The IAFF, in conjunction with the Fire Fighter Cancer Support Network, has developed an online training to help members of the fire service understand and reduce the risk of exposure to carcinogens through the course of their duties.

http://client.prod.iaff.org/#contentid=40435

Healthy In, Healthy Out – Firefighter Cancer Prevention

Cancer rates in the fire service are reaching epidemic levels. The following Best Practices have been identified to help reduce exposures to carcinogens. These are simple, cost-effective methods that firefighters can implement now to reduce the risk of contracting cancer.

https://www.youtube.com/watch?v=2OCOguqCwWc



CANCER PREVENTION CHECKLIST

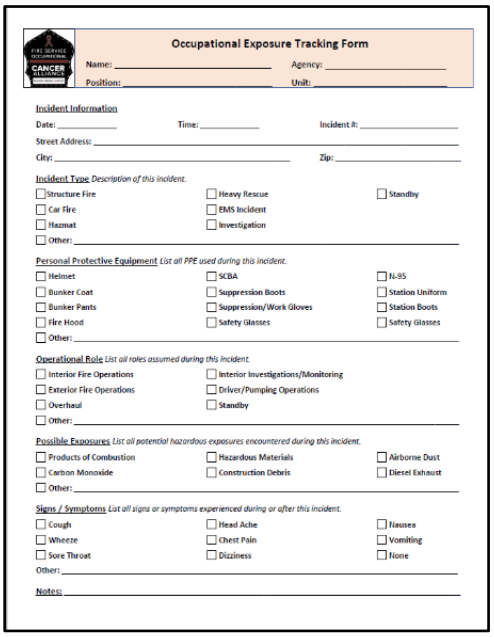
Decades of research shows that firefighters face an increased risk of developing cancer due to occupational exposures. In fact, cancer is a leading cause of firefighter deaths in the U.S. Fortunately, research has also shown that there are steps that can be taken to reduce those risks. It is time to change the culture to cut out cancer.

WHAT YOU CAN DO TO PROTECT YOURSELF

- ☐ **Treat every fire as a hazardous materials call – because it is.**
- ☐ Wear SCBA through all stages of firefighting, including overhaul.
- ☐ Perform gross decontamination whenever leaving fire operations, preferably before removing your regulator.
- ☐ **Bunker gear protects against heat – not carcinogens.** In rehab, use wet wipes to remove toxic soot from your head, face, neck, underarms, and hands.
- ☐ **"Shower Within the Hour"** – or as soon as possible after the incident.
- ☐ Change and wash uniform clothing, including hood, immediately upon returning to the station.
- ☐ Ensure that all gear and apparatus are properly cleaned after the fire. Switch to B-Set gear, if available.
- ☐ Keep gear out of living and sleeping areas.
- ☐ Do not take contaminated clothing home or store in a vehicle.
- ☐ Report every exposure using personnel injury tracking systems.
- ☐ Participate in annual medical surveillance. **Early detection leads to better outcomes!**

Cancer Prevention Checklist

This checklist is meant to serve as a reminder of what can be done by each firefighter to reduce their risk of exposure to carcinogens. Please print out this checklist and post it in a public location such as a dayroom, rest room, gym, or locker room. It is also a great resource to add to a rehab guide or manual.



Occupational Exposure Tracking Form

Name: _____ Agency: _____

Position: _____ Unit: _____

Incident Information

Date: _____ Time: _____ Incident #: _____

Street Address: _____

City: _____ Zip: _____

Incident Type *Description of this incident.*

☐ Structure Fire ☐ Heavy Rescue ☐ Standby
☐ Car Fire ☐ EMS Incident
☐ Hazmat ☐ Investigation
☐ Other: _____

Personal Protective Equipment *List all PPE used during this incident.*

☐ Helmet ☐ SCBA ☐ N-95
☐ Bunker Coat ☐ Suppression Boots ☐ Station Uniform
☐ Bunker Pants ☐ Suppression/Work Gloves ☐ Station Boots
☐ Fire Hood ☐ Safety Glasses ☐ Safety Glasses
☐ Other: _____

Operational Role *List all roles assumed during this incident.*

☐ Interior Fire Operations ☐ Interior Investigations/Monitoring
☐ Exterior Fire Operations ☐ Driver/Pumping Operations
☐ Overhaul ☐ Standby
☐ Other: _____

Possible Exposures *List all potential hazardous exposures encountered during this incident.*

☐ Products of Combustion ☐ Hazardous Materials ☐ Airborne Dust
☐ Carbon Monoxide ☐ Construction Debris ☐ Diesel Exhaust
☐ Other: _____

Signs / Symptoms *List all signs or symptoms experienced during or after this incident.*

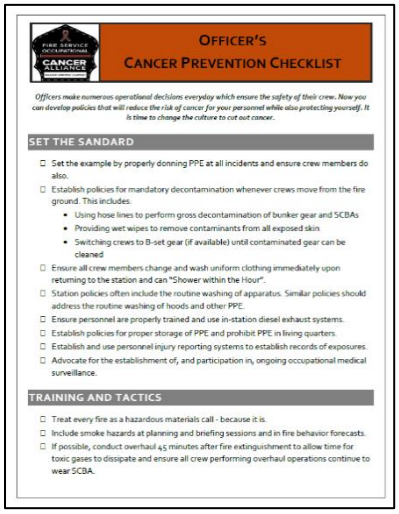
☐ Cough ☐ Head Ache ☐ Nausea
☐ Wheeze ☐ Chest Pain ☐ Vomiting
☐ Sore Throat ☐ Dizziness ☐ None
Other: _____

Notes: _____

Occupational Exposure Tracking Form

Comprehensive occupational exposure records can make a critical difference in line-of-duty determinations. All fire agencies should have robust record management systems to track exposures. However, even when such systems are in place, it is advisable that each firefighter track their own exposures as well. This form can be used for maintenance of personal exposure tracking.

FOR COMPANY OFFICERS



OFFICER'S
CANCER PREVENTION CHECKLIST

Officers make numerous operational decisions everyday which ensure the safety of their crew. Now you can develop policies that will reduce the risk of cancer for your personnel while also protecting yourself. It is time to change the culture to cut out cancer.

SET THE SANDARD

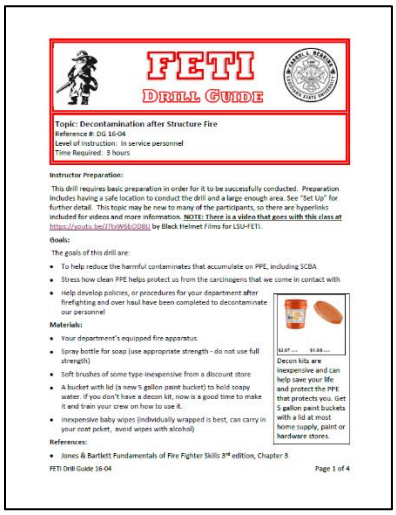
- ☐ Set the example by properly donning PPE at all incidents and ensure crew members do also.
- ☐ Establish policies for mandatory decontamination whenever crews move from the fire ground. This includes:
  - Using hose lines to perform gross decontamination of bunker gear and SCBAs
  - Providing wet wipes to remove contaminants from all exposed skin
  - Switching crews to B-set gear (if available) until contaminated gear can be cleaned
- ☐ Ensure all crew members change and wash uniform clothing immediately upon returning to the station and can "Shower within the Hour".
- ☐ Station policies often include the routine washing of apparatus. Similar policies should address the routine washing of hoods and other PPE.
- ☐ Ensure personnel are properly trained and use in-station diesel exhaust systems.
- ☐ Establish policies for proper storage of PPE and prohibit PPE in living quarters.
- ☐ Establish and use personnel injury reporting systems to establish records of exposures.
- ☐ Advocate for the establishment of, and participation in, ongoing occupational medical surveillance.

TRAINING AND TACTICS

- ☐ Treat every fire as a hazardous materials call - because it is.
- ☐ Include smoke hazards at planning and briefing sessions and in fire behavior forecasts.
- ☐ If possible, conduct overhaul 45 minutes after fire extinguishment to allow time for toxic gases to dissipate and ensure all crew performing overhaul operations continue to wear SCBA.

Officer's Cancer Prevention Checklist

Officers make numerous operational decisions everyday which ensure the safety of their crew. Now you can develop policies that will reduce the risk of cancer for your personnel while also protecting yourself. It is time to change the culture to cut out cancer.



FETI
DRILL GUIDE

Topic: Decontamination after Structure Fire
Reference #: DG 16-04
Level of Instruction: In service personnel
Time Required: 3 hours

Instructor Preparation:

This drill requires basic preparation in order for it to be successfully conducted. Preparation includes having a safe location to conduct the drill and a large enough area. See "Set Up" for further detail. This topic may be new to many of the participants, so there are hyperlinks included for videos and more information. **NOTE: There is a video that goes with this class at** https://youtu.be/JTtxW6kOD8U **by Black Helmet Films for LSU-FETI.**

Goals:

The goals of this drill are:

- To help reduce the harmful contaminates that accumulate on PPE, including SCBA
- Stress how clean PPE helps protect us from the carcinogens that we come in contact with
- Help develop policies, or procedures for your department after firefighting and over haul have been completed to decontaminate our personnel

Materials:

- Your department's equipped fire apparatus
- Spray bottle for soap (use appropriate strength - do not use full strength)
- Soft brushes of some type-inexpensive from a discount store
- A bucket with lid (a new 5 gallon paint bucket) to hold soapy water. If you don't have a decon kit, now is a good time to make it and train your crew on how to use it.
- Inexpensive baby wipes (individually wrapped is best, can carry in your coat picket, avoid wipes with alcohol)

Decon kits are inexpensive and can help save your life and protect the PPE that protects you. Get 5 gallon paint buckets with a lid at most home supply, paint or hardware stores.

References:

- Jones & Bartlett Fundamentals of Fire Fighter Skills 3rd edition, Chapter 5

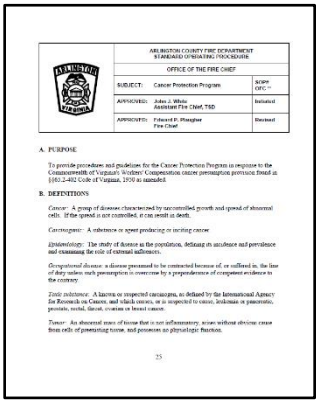
FETI Drill Guide 16-04 Page 1 of 4

Decontamination Drill

This drill aims to reduce exposure to harmful contaminants firefighters may come in contact with and stress how simple decontamination measures can reduce their overall risk of cancer.

CANCER PROTECTION POLICY EXAMPLES

Arlington County, VA Fire Department SOP: Cancer Protection Program



ARLINGTON COUNTY FIRE DEPARTMENT
STANDARD OPERATING PROCEDURE

OFFICE OF THE FIRE CHIEF

SUBJECT: Cancer Protection Program — SOP/OFC #:

APPROVED: John J. White, Assistant Fire Chief, TSD — Initialed

APPROVED: Edward P. Plaugher, Fire Chief — Initialed

A. PURPOSE

To provide procedures and guidelines for the Cancer Protection Program in response to the Commonwealth of Virginia's Workers' Compensation cancer presumption provision found at §§65.2-402 Code of Virginia, 1950 as amended.

B. DEFINITIONS

Cancer: A group of diseases characterized by uncontrolled, growth and spread of abnormal cells. If the spread is not controlled, it can result in death.

Carcinogenic: A substance or agent producing or inciting cancer.

Epidemiology: The study of disease in the population, defining its incidence and prevalence and examining the role of external influences.

Occupational disease: a disease presumed to be contracted because of, or suffered in, the line of duty unless such presumption is overcome by a preponderance of competent evidence to the contrary.

Table substance: A known or suspected carcinogen, as defined by the International Agency for Research on Cancer, and which causes, or is suspected to cause, leukemia or pancreatic, prostate, rectal, throat, ovarian or breast cancer.

Tumor: An abnormal mass of tissue that is not inflammatory, arises without obvious cause from cells of penetrating tissue, and possesses no physiologic function.

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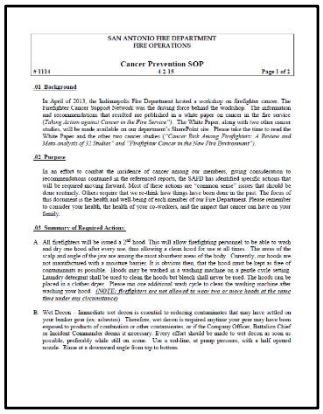
San Antonio, TX Fire Department SOP: Cancer Prevention



SAN ANTONIO FIRE DEPARTMENT
FIRE OPERATIONS

Cancer Prevention SOP

1114 — 4.2.15 — Page 1 of 2

01 Background

In April of 2013, the Indianapolis Fire Department hosted a workshop on firefighter cancer. The Firefighter Cancer Support Network was the driving force behind the workshop. The information and recommendations that resulted are published in a white paper on cancer in the fire service (*Taking Action against Cancer in the Fire Service*"). The White Paper, along with two other cancer studies, will be made available on our department's SharePoint site. Please take the time to read the White Paper and the other two cancer studies ("*Cancer Risk Among Firefighters: A Review and Meta-analysis of 32 Studies*" and "*Firefighter Cancer in the New Fire Environment*").

02 Purpose

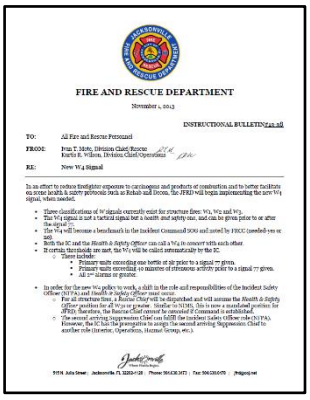
In an effort to combat the incidence of cancer among our members, giving consideration to recommendations contained in the referenced reports, the SAFD has identified specific actions that will be required moving forward. Most of these actions are 'common sense' issues that should be done routinely. Others require that we re-think how things have been done in the past. The focus of this document is the health and well-being of each member of our fire Department. Please remember to consider your health, the health of your co-workers, and the impact that cancer can have on your family.

03 Summary of Required Actions:

A. All firefighters will be issued a 2nd hood. This will allow firefighting personnel to be able to wash and dry one hood after every use, thus allowing a clean hood for use in all times. The areas of the scalp and nape of the jaw are among the most absorbent areas of the body. Currently, our hoods are not manufactured with a moisture barrier. It is obvious then, that the hood must be kept as free of contaminants as possible. Hoods may be washed in a washing machine on a gentle cycle setting. Laundry detergent shall be used to clean the hoods but bleach shall never be used. The hoods can be placed in a clothes dryer. Please run one additional wash cycle to clean the washing machine after washing your hood. *(NOTE: Firefighters are not allowed to wash two or more hoods at the same time under any circumstance)*

B. Wet Decon – Immediate wet decon is essential to reducing contaminates that may have settled on your bunker gear (ex. asbestos). Therefore, wet decon is required anytime your gear may have been exposed to products of combustion or other contaminates, or if the Company Officer, Battalion Chief or Incident Commander deems it necessary. Every effort should be made to wet decon as soon as possible, preferably while still on scene. Use a wash-line, or pump process, with a half opened nozzle. Rinse at a downward angle from top to bottom.

Jacksonville, FL Fire & Rescue Department IB: New W4 Signal



FIRE AND RESCUE DEPARTMENT

November 1, 2013

INSTRUCTIONAL BULLETIN 13-16

TO: All Fire and Rescue Personnel

FROM: Fran T. Mohr, Division Chief/Rescue
Kurtis R. Wilkins, Division Chief/Operations

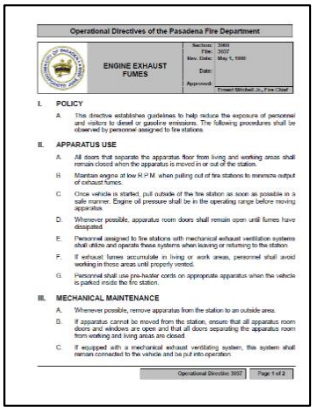
RE: New W4 Signal

In an effort to reduce firefighter exposure to carcinogens and products of combustion and to better facilitate on-scene health & safety protocols (such as Rehab and Decon, the JFRD will begin implementing the new W4 signal, when needed.

- Three classifications of W signals currently exist for structure fires; W1, W2 and W3.
- This W4 signal is not a tactical signal but a health and safety one, and can be given prior to or after the initial W1.
- The W4 will become a benchmark in the Incident Command SOG and noted by FECC (needed/on scene).
- Both the IC and the Health & Safety Officer can call a W4 in concert with each other.
- If certain thresholds are met, the W4 will be called automatically by the IC.
  - These include:
    - Primary units exceeding one bottle of air prior to a signal 77 given.
    - Primary units exceeded 10 minutes of strenuous activity prior to a signal 77 given.
    - All 2nd Alarms or greater.
- In order for the new W4 policy to work, a shift in the role and responsibilities of the Incident Safety Officer (ISO/PAS) and Health & Safety Officer must occur.
  - For all structure fires, a Rescue Chief will be dispatched and will assume the Health & Safety Officer position for all W3s or greater. Similar to N1045. This is now a mandated position for JFRD; therefore, the Rescue Chief cannot be canceled if Command is established.
  - The second arriving Suppression Chief can fulfill the Incident Safety Officer role (ISO/PAS). However, the IC has the prerogative to assign the second arriving Suppression Chief to another role (Interior, Operations, Human Group, etc.).

5334 Julia Street · Jacksonville, FL 32205-4128 · Phone: 904.630.3471 · Fax: 904.630.0075 · jfrd@coj.net

Pasadena, CA Operational Directive: Diesel Exhaust Fumes



Operational Directives of the Pasadena Fire Department

ENGINE EXHAUST FUMES

Section: 3000
File: 3027
Rev. Date: May 1, 1998
Date:
Approved:

I. POLICY

A. This directive establishes guidelines to help reduce the exposure of personnel and visitors to diesel or gasoline emissions. The following procedures shall be observed by personnel assigned to fire stations.

II. APPARATUS USE

A. All doors that separate the apparatus floor from living and working areas shall remain closed when the apparatus is moved in or out of the station.

B. Maintain engine at low R.P.M. when pulling out of fire stations to minimize output of exhaust fumes.

C. Once vehicle is started, pull outside of the fire station as soon as possible in a safe manner. Engine oil pressure shall be in the operating range before moving apparatus.

D. Whenever possible, apparatus room doors shall remain open until fumes have dissipated.

E. Personnel assigned to fire stations with mechanical exhaust ventilation systems shall utilize and operate these systems when leaving or returning to the station.

F. If exhaust fumes accumulate in living or work areas, personnel shall avoid working in those areas until properly vented.

G. Personnel shall use pre-heater cords on appropriate apparatus when the vehicle is parked inside the fire station.

III. MECHANICAL MAINTENANCE

A. Whenever possible, remove apparatus from the station to an outside area.

B. If apparatus cannot be moved from the station, ensure that all apparatus room doors and windows are open and that all doors separating the apparatus room from working and living areas are closed.

C. If equipped with a mechanical exhaust ventilating system, this system shall remain connected to the vehicle and be put into operation.

Operational Directive 3027 — Page 1 of 2

MULTIMEDIA RESOURCES

The Silent Killer – Firefighter Cancer

Firefighters and authorities who've dealt with cancer first-hand or who've watched others battle it share their stories in "The Silent Killer: Firefighter Cancer" produced by the National Fallen Firefighters Foundation. Hear what they have to say about why cancer-prevention is so important.

https://www.youtube.com/watch?v=fyZ_HQM9Z_c

SKNLUV – Firefighters and Cancer Training

Firefighters inhale carcinogens and carcinogens are absorbed through the skin. For every 5° increase in skin temperature, absorption increases by 400%. Carcinogens linger on our unwashed gear, helmets, and clothes long after the fire creating continued and prolonged exposure. Ironically, that soot and

https://www.youtube.com/watch?v=WrNgDpZjEBA

Cancer Prevention in the Boston Fire Department

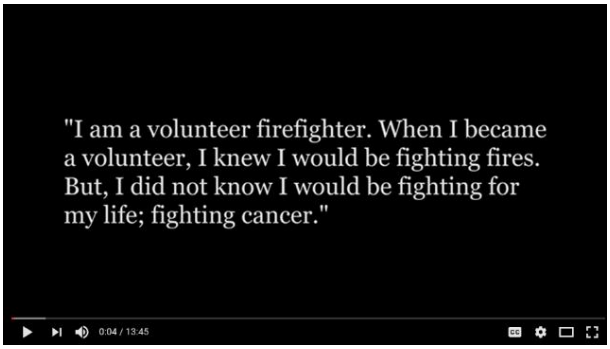
Firefighters in Boston are battling a cancer epidemic – a Boston firefighter faces over two times the cancer risk of other residents and 67% of Boston firefighters will face a cancer diagnosis. But there are steps that can be taken to prevent this terrible disease.

https://www.youtube.com/watch?v=bXd5sb6fWNM

Decon: Hose Down for Health

In this video, the United Fire Service Women team identify fire station hazards (e.g., contaminated dust, diesel exhaust, etc.) and safe practices to protect against these dangers. The team also demonstrates simple and attainable actions that can be taken to reduce contaminants in the engine cabin and living quarters.

https://youtu.be/UAWVoZvABbQ



The Cost of Cancer in the Fire Service: Volunteer Firefighter Families Share Their Stories

Volunteer firefighters volunteer to fight fires and protect their communities. They don't volunteer to get cancer.

https://www.youtube.com/watch?v=3OCEBLSEz3E

IN THE NEWS

Cancer Alarm at the Fire House

Harvard researchers have teamed up with local fire departments to tackle a health care mystery: How does the firehouse itself increase cancer risk among firefighters?

http://news.harvard.edu/gazette/story/2017/08/harvard-researchers-examine-firehouse-cancer-threat/

Firefighters and Cancer: Dana-Farber Scientists Investigate

While other studies have focused on carcinogens on the fire ground, Dana-Farber scientists are studying the risk of long-term exposure to low level toxins within the fire station itself – such as diesel fuel. The team received federal grants to conduct the research and they have had the full support of Boston Mayor Martin Walsh. Through their research, the team hopes to be able to recommend long-term workplace interventions to reduce firefighters' risk of developing cancer.

http://blog.dana-farber.org/insight/2017/02/firefighters-and-cancer-dana-farber-scientists-investigate/

Firefighters and Cancer: Is a Risky Job Even Riskier?

In 2015, the Centers for Disease Control and Prevention released the final results of what is currently the largest study of cancer risk among career firefighters ever conducted in the United States. The CDC also found that firefighters who were exposed to more fires than their peers experienced more instances of lung cancer and leukemia.

https://www.washingtonpost.com/local/public-safety/firefighters-and-cancer-is-a-risky-job-even-riskier/2017/02/24/801c3228-f440-11e6-8d72-263470bf0401_story.html?utm_term=.60c9f4852bdc

Township Using Decontamination Kits for Firefighters on Scene to Fight Cancer Risk

For years, firefighters have gone through a decontamination process when they return to the station. Fire-serviceNow decontamination kits will go with them and provide items for immediate use to remove cancer causing agents on scene.

https://youtu.be/ck8x_4XtdSY


Cancer Schmancer... Can We Please Talk About Something Else?

The Ron Kanterman story

06/21/2017

By Nozzlehead

This letter to NOZZLEHEAD started out as Dear Billy. The person who wrote me doesn't normally call me Nozzlehead, at least not in public. Ever since I was "culled" by Bobby (Halton), Erich (Roden), and Diane (Rothschild) when PennWell bought this magazine, I lost the hidden larp of being Nozzlehead. I was worried that I would not be able to write what I want and how I feel - but that never happened. I continue to enjoy the privilege of being able to say what I feel needs to be said. I just use both names now; kinda one of those cool hipsters who hyphenate their names. Yeah, just like that.

So, this month it's a letter from a long-time friend who many of you know as well. Chief Ronnie Kanterman of Wilton, Connecticut, is a multidecade chief who is very involved with the National Fallen Firefighters Foundation, the Fire Department Instructors Conference International, and much more.

Cancer Schmancer… Can We Please Talk About Something Else?

We cannot talk about something else. Cancer is not an "old firefighter" disease. We are seeing young firefighters in their 20s and 30s being diagnosed - many surviving, some not surviving. Young, vibrant, gung-ho, firefighting-loving firefighters – gone too soon.

http://firerescuemagazine.com/articles/print/volume-12/issue-6/departments/nozzlehead/cancer-schmancer-can-we-please-talk-about-something-else.html?cmpid=enl_ffn_firefighternationnow_2017-06-12


City targeting cancer risks for firefighters

City Targeting Cancer Risk for Firefighters

A Boston firefighter is diagnosed with cancer every three weeks, the city's fire commissioner, Joseph E. Finn, said in a keynote address at a conference in Nashville. Speaking at the annual Firehouse Expo, Finn said the Fire Department is working hard to reduce cancer risks among firefighters… Finn has created a health, safety, and wellness division, which has made two videos to raise awareness of the high cancer rates.

https://www.bostonglobe.com/metro/2016/10/21/boston-fire-commissioner-reflects-reducing-cancer-among-firefighters/GPlEFV0DnqM9C2Nu71j0XI/story.html

Firefighter Dies from Toxic Infernos

Researchers have confirmed firefighters in the Houston area and throughout the U.S. have higher rates of all known cancers, an occupational hazard directly linked to dozens of known carcinogens from smoke produced by the blazes they battle.

http://www.fox26houston.com/news/229060260-story

A Young Firefighter's Story About Cancer

Kyle Jameson saw his doctor for a routine physical. The lymphoma they detected took everyone by surprise. It's not typical of healthy young men. They soon realized it was due to exposure to multiple toxins from fighting fires.

https://www.youtube.com/watch?v=j_NjTlG_Qd0

Cancer in the Fire Service

Fire Chief Jay Cullinan of Spotsylvania County Fire, Rescue and Emergency Management shares his experience of being diagnosed and treated for cancer caused by occupational exposures.

https://www.youtube.com/watch?v=4QUD67QhY-A

AFTER THE DIAGNOSIS

Finding out you, or someone you love, has cancer can be devastating. Receiving this diagnosis can release ever changing waves of emotion including fear, anger, depression, or hopelessness. This is normal and you are not alone. The good news is there are a wide variety of resources all developed to support you from the moment of diagnosis all the way through each phase of treatment.

Firefighter Cancer Support Network

FCSN provides assistance to fire/EMS personnel and their family members who have been diagnosed with cancer. They provide rapid post-diagnosis resources followed by one-on-one support from fellow firefighters and they will send you a FCSN signature toolbox free of charge. FCSN's toolbox contains critical resources to help you plan, communicate, and take action with your doctors, your loved ones, and your brothers and sisters in the fire service.

FCSN has more than 120 fire service mentors with personal experience facing many types of cancer. FCSN mentors can provide newly diagnosed fire/EMS members with valuable information about a particular type of cancer, share their own experiences with testing and treatments, and offer valuable insight into the recovery process.

Click the link below to find out what you can expect when you request assistance from the FCSN.

IAFF Cancer Registry

Cancer is a disease that is of particular concern for members of the fire service. A number of previous studies have identified several cancers for which firefighters are at increased risk. To help further characterize this increased risk the IAFF, in response to members' requests, has developed a Cancer Registry. IAFF members or a family member can use this web site to report a cancer diagnosis.

In addition to reporting the cancer, members are being asked first to complete the Wellness Fitness Initiative (WFI) questions which will provide necessary information for the Cancer Registry as well as for the WFI efforts.

APPENDIX

On the following pages you will find full size examples of the documents referenced throughout this site.

Cancer Prevention Checklist

Decades of research shows that firefighters face an increased risk of developing cancer due to occupational exposures. In fact, cancer is a leading cause of firefighter deaths in the U.S. Fortunately, research has also shown that there are steps that can be taken to reduce those risks. It is time to change the culture to cut out cancer.

WHAT YOU CAN DO TO PROTECT YOURSELF

- ☐ **Treat every fire as a hazardous materials call - because it is.**
- ☐ Wear SCBA through all stages of firefighting, including overhaul.
- ☐ Perform gross decontamination whenever leaving fire operations, preferably before removing your regulator.
- ☐ **Bunker gear protects against heat – not carcinogens.** In rehab, use wet wipes to remove toxic soot from your head, face, neck, underarms, and hands.
- ☐ "**Shower Within the Hour**" – or as soon as possible after the incident.
- ☐ Change and wash uniform clothing, including hood, immediately upon returning to the station.
- ☐ Ensure that all gear and apparatus are properly cleaned after the fire. Switch to B-Set gear, if available.
- ☐ Keep gear out of living and sleeping areas.
- ☐ Do not take contaminated clothing home or store in a vehicle.
- ☐ Report every exposure using personnel injury tracking systems.
- ☐ Participate in annual medical surveillance. **Early detection leads to better outcomes!**

OFFICER'S CANCER PREVENTION CHECKLIST

Officers make numerous operational decisions everyday which ensure the safety of their crew. Now you can develop policies that will reduce the risk of cancer for your personnel while also protecting yourself. It is time to change the culture to cut out cancer.

SET THE SANDARD

- ☐ Set the example by properly donning PPE at all incidents and ensure crew members do also.
- ☐ Establish policies for mandatory decontamination whenever crews move from the fire ground. This includes:
  - Using hose lines to perform gross decontamination of bunker gear and SCBAs
  - Providing wet wipes to remove contaminants from all exposed skin
  - Switching crews to B-set gear (if available) until contaminated gear can be cleaned
- ☐ Ensure all crew members change and wash uniform clothing immediately upon returning to the station and can "Shower within the Hour".
- ☐ Station policies often include the routine washing of apparatus. Similar policies should address the routine washing of hoods and other PPE.
- ☐ Ensure personnel are properly trained and use in-station diesel exhaust systems.
- ☐ Establish policies for proper storage of PPE and prohibit PPE in living quarters.
- ☐ Establish and use personnel injury reporting systems to establish records of exposures.
- ☐ Advocate for the establishment of, and participation in, ongoing occupational medical surveillance.

TRAINING AND TACTICS

- ☐ Treat every fire as a hazardous materials call - because it is.
- ☐ Include smoke hazards at planning and briefing sessions and in fire behavior forecasts.
- ☐ If possible, conduct overhaul 45 minutes after fire extinguishment to allow time for toxic gases to dissipate and ensure all crew performing overhaul operations continue to wear SCBA.

Occupational Exposure Tracking Form

Name: _____ **Agency:** _____

Position: _____ **Unit:** _____

Incident Information

Date: _____ **Time:** _____ **Incident #:** _____

Street Address: _____

City: _____ **Zip:** _____

Incident Type (*Description of this incident)*

- ☐ **Structure Fire**
- ☐ **Heavy Rescue**
- ☐ **EMS Incident**
- ☐ **Car Fire**
- ☐ **Hazmat**
- ☐ **Investigation**
- ☐ **Outdoor Fire**
- ☐ **Gas Leak**
- ☐ **Standby**
- ☐ **Other:** _____

Personal Protective Equipment (*List all PPE used during this incident)*

- ☐ **Helmet**
- ☐ **SCBA**
- ☐ **N-95**
- ☐ **Bunker Coat**
- ☐ **Suppression Boots**
- ☐ **Station Uniform**
- ☐ **Bunker Pants**
- ☐ **Suppression Gloves**
- ☐ **Station Boots**
- ☐ **Fire Hood**
- ☐ **Safety Glasses**
- ☐ **Work Gloves**
- ☐ **Other:** _____

Operational Role (*List all roles assumed during this incident)*

- ☐ **Interior Fire Operations**
- ☐ **Interior Investigations/Monitoring**
- ☐ **Patient Care**
- ☐ **Exterior Fire Operations**
- ☐ **Driver/Pumping Operations**
- ☐ **Rehab**
- ☐ **Overhaul**
- ☐ **RIT**
- ☐ **Standby**
- ☐ **Other:** _____

Possible Exposures (*List all potential hazardous exposures encountered during this incident)*

- ☐ **Products of Combustion**
- ☐ **Hazardous Materials**
- ☐ **Airborne Dust**
- ☐ **Carbon Monoxide**
- ☐ **Construction Debris**
- ☐ **Diesel Exhaust**
- ☐ **Other:** _____

Signs / Symptoms (*List all signs or symptoms experienced during or after this incident)*

- ☐ **Cough**
- ☐ **Head Ache**
- ☐ **Nausea**
- ☐ **Wheeze**
- ☐ **Chest Pain**
- ☐ **Vomiting**
- ☐ **Sore Throat**
- ☐ **Dizziness**
- ☐ **None**
- ☐ **Other:** _____

Notes: _____