

# Lavender Ribbon Report

# BEST PRACTICES

## for Preventing Firefighter Cancer



11 ACTIONS TO HELP MITIGATE  
THE RISK OF CANCER





## IAFC'S VOLUNTEER & COMBINATION OFFICERS SECTION (VCOS) BOARD

### **VCOS Executive Committee:**

#### **Chair**

Chief Timothy S. Wall  
North Farms (CT) Volunteer Fire Department  
[firewallco7@sbcglobal.net](mailto:firewallco7@sbcglobal.net)

#### **Vice Chair**

Chief Charles Flynn  
Suffield (CT) Fire Department  
[cflynn@suffieldct.gov](mailto:cflynn@suffieldct.gov)

#### **Secretary/Treasurer**

Chief Norvin Collins  
Sauvie Island (OR) Fire District  
[norvin.collins@me.com](mailto:norvin.collins@me.com)

#### **International Director**

Chief Donna Black  
Duck (NC) Fire Department  
[dblack@townofduck.com](mailto:dblack@townofduck.com)

### **VCOS At-Large Directors:**

Chief Jason Catrambone  
Williston (ND) Fire Department  
[jasonc@ci.williston.nd.us](mailto:jasonc@ci.williston.nd.us)

Chief Jim Cook  
Leesburg (VA) Volunteer Fire Company  
[jcook@leesburgfire.org](mailto:jcook@leesburgfire.org)

Chief Rich Cowger  
Columbus (MT) Fire Rescue  
[rcowger@columbusfirerescue.com](mailto:rcowger@columbusfirerescue.com)

Chief Ed Rush  
Hartsdale (NY) Fire District  
[ERush@hartsdalefire.org](mailto:ERush@hartsdalefire.org)

Chief James P. Seavey Sr.  
Cabin John Park (MD) Volunteer Fire Department  
[mdfire0412@aol.com](mailto:mdfire0412@aol.com)

Chief Fred Windisch  
Ponderosa (TX) Fire Department  
[FWindisch@ponderosavfd.org](mailto:FWindisch@ponderosavfd.org)



**RESOURCES**

**Instructor**

Computer/Tablet device  
Projector  
Screen  
Easel / Easel Pad Paper

If you are doing an all day program and want to use breakouts you would need multiple easel pads.

**Student**

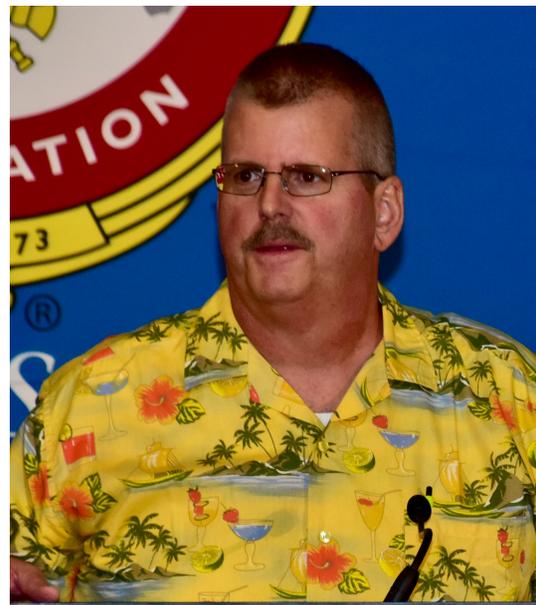
Printed copy of the Lavender Ribbon Report (LRR) or at the minimum an electronic copy of the LRR.

Highlighter or Pen/Pencil to make notes in the paper copy of the LRR.

Student links handout / back of the Instructor Guide.

**Alternatives**

Coffee  
Water  
Lunch - seek sponsors



The Lavender Ribbon Report was developed through a cooperative agreement between the International Association of Fire Chief Volunteer and Combination Officers Section and the National Volunteer Fire Council

The authors that contributed their material are:

President Scott Beecher - Group Chair  
Chief James Seavey  
Battalion Chief Seth Barker  
Chief Jeff Cash  
Assistant Chief Robert Logan  
Chief Brian McQueen  
Chief Juan Bonilla  
Chief Reed Bullock

The curriculum to deliver training on the 11 Best Practices was developed by:

Chief John M. Buckman III  
Chief Brian McQueen  
State Fire Commissioner Ed Mann  
Ryan Pietzsch

Slide 1 Title - Best Practices  
History Presentation - how the LRR was developed

#### Instructor Notes

Collaboration between 2 national organizations representing the fire department that are staffed with volunteers and/or a combination staffing model.

Deliberative approach to develop a list of best practices that can reduce firefighters exposures to carcinogens.

The NVFC and VCOS want to motivate you to take action to spend the time and energy to make changes within local organizations to improve the health and safety of responders.

Slide 2 Title - Surviving the Job  
Objectives of the course

Slide 4 - Lavender Report Developers

#### **Scott Beecher**

- VCOS Cancer Committee Sponsor Member (R & D, Marketing and Committee Strategy)
- VCOS – Assists in the coordination of all sponsors for VCOS Symposium
- VCOS West – Key Sponsor – one of the first sponsor initiating the program
- NVFC – Sponsor Member
- Lavender Ribbon Report – 11 Best Practices for Firefighter Cancer Prevention Chair, Author and Steering Committee Member
- IAFC – Current Member as a Health & Safety Products Manufacturer
- IAFC - FSTAR Health & Cancer 360 – Get Checked Campaign Key Supporter
- Metropolitan Fire Chiefs – Gold Level Sponsor
- FAMA – Current Member as a Health & Safety Products Manufacturer of equipment for emission systems within apparatus
- FAMA – Technical Committees for both Chassis and ARFF
- Fire Service Conference and Trade Event Sponsors – Participate in over 70 Fire Chief Conferences, Seminars and Trade Events annually

**Robert Logan** practically grew up in a fire station. He fulfilled his childhood dream when he began his firefighting career in 1995. He has previously held the ranks of Lieutenant, Captain and Fire Marshal while serving as a volunteer with the Ponderosa Fire Department. Robert joined Spring Fire Department in August of 2010 as Training District Chief. After serving as Deputy Chief over Personnel and Development, Robert

is now the Assistant Fire Chief and a board member of the Spring Volunteer Fire Association. Robert is a certified paramedic with a BS in Fire Science from Columbia Southern University. He is a certified Chief Fire Officer from the Center Public Safety Excellence. He is also a graduate of the Texas A&M Mays Business School Fire Service Chief Executive Officer program, a Fire Officer IV and Master Fire Instructor. Robert is currently pursuing a Master's degree. When not serving the public, Robert enjoys quality time with his wife, Loralyn, and their two daughters, Addison and Ellie. He enjoys all things Texan such as country music, playing his acoustic guitar and watching the Houston Astros win. Robert works hard to empower the firefighters and support team. As Assistant Fire Chief, he follows the Richard Branson method. "Employees come first. If you take care of your employees, they will take care of the clients."

**Seth Barker** is a Battalion Chief and Training Officer for the Big Sky Fire Department in Big Sky, MT. Chief Barker is a Logistical Coordinator for FireFighterCloseCalls.com and has contributed to the 13 Life Safety Initiatives for the National Fallen Firefighters Foundation. He sits as the Vice-Chair for the Volunteer Combination Officer Section for the International Association of Fire Chiefs Cancer Alliance Committee. Barker is one of the contributing authors for the Lavender Report issuing the 10 Best Practices of Cancer Prevention in the Fire Service. He is a featured author in Fire Rescue Magazine over the past 4 years and delivers multiple courses on preplanning your community in an all hazard discipline environment. Barker holds the Liver Fire Instructor certification and the Training Officer Credential through the International Society of Fire Service Instructors (ISFSI). He is part of the curriculum development team that produced projects funded by the American Fire Grants with partnerships with Underwriters Laboratories and ISFSI that included Principals of Modern Fire Attack, Safe Law Enforcement Fire Ground Operations, and recently Understanding and Fighting Basement Fires. Barker is a Blue Card Instructor, has served as an instructor for the Montana State Fire Service Training School, and is a Modern Fire Behavior Instructor. He serves as the 2nd Vice President for the International Society of Fire Service Instructors. Chief Barker holds the Fire Officer and Chief Training Officer Designation from the Center of Public Safety and Excellence. He recently received the Jim Blankenship Award from the Montana State Fire Chiefs Association for excellence in Fire Training.

**Juan R. Bonilla**, was appointed the Fire Chief for the Donnelly Rural Fire Protection District in June, 2007 and have been a member for 22 years. I am a Persian Gulf veteran (Desert Storm) who served four years in the U.S. Navy as a petty officer 3rd Class. As a submariner, I trained in fire suppression, flooding, damage control, communications, and CBRNE (Chemical, Biological, Radiological, Nuclear high yield Explosives) including explosive ordnance detail teams both conventional and nuclear. I have served the DRFPD since 1996. During my time with DRFPD, I have managed the implementation of the current fire and EMS training programs and twenty-four-hour station coverage. I am a state firefighter essentials instructor and have held the positions of Fire Captain/Training Officer and the Assistant Chief. Since being appointed, I have been active in local, state, and national government. I serve on the National Volunteer Fire Council Executive Committee Board, the EMS/R Section as

Chairperson, Recruitment and Retention Vice-Chairperson, a member of the Cancer Awareness and Prevention Committee, a member of steering committee for Advocates for Fire-Based EMS, a member of the National Fire Protection Association First Responder Forum, and the Diversity and Inclusion Chairperson. I also am a co-director of the Idaho Volunteer Fire and Emergency Services Association, as a state Director with NVFC. I also hold the position of Valley County Emergency Manager. I have been an EMR, EMT, and AEMT since 1997.

Slide 3      Instructor Introduction

Slide 4      Instructor Introduction

Slide 6      Dedication to Chief Jim Seavey

The Lavender Ribbon Report is dedicated in the memory of Chief James P. Seavey Jr. Jim Seavey's name was synonymous with volunteerism in the fire service. He served as the Maryland State Firemen's Association National Volunteer Fire Council representative. He was on the Board of the International Association of Fire Chief Volunteer and Combination Officers Section.

He previously served as president of the IAFC's Eastern Division.

In 2009, Jim was recognized by the IAFC as the Volunteer Fire Chief of the Year. He also received the Leslie B. Thompson Award for Lifetime Achievement by the Maryland Fire Chiefs Association, its highest honor. In 2018 he received the John M. Buckman III - Leadership Award.

Chief Seavey career spanned 42 years. He served as Fire Chief for Cabin John Park Volunteer Fire Department as well as a career firefighter for the D.C. Fire and EMS Department rising to the rank of Captain. He retired from the department in January 2016.

He was a fierce advocate for the volunteer fire service, He worked tirelessly to raise awareness of the need for preventing cancer in firefighters. Chief Seavey co-authored the Lavender Ribbon Report: Best Practices for Preventing Firefighter Cancer, published in August 2018 by the IAFC. Chief Seavey had a servant attitude and he was dedicated, humorous, and a courageous leader.

Slide 7      VCOS Board

Slide 8      NVFC Board

Slide 9      Curriculum Developers

## Slide 5 VCOS Mission - Vision

View VCOS Video - 3 minutes

[https://www.youtube.com/watch?v=qQ0\\_jtegvvY](https://www.youtube.com/watch?v=qQ0_jtegvvY)

## Instructor Notes

## Mission

To provide chiefs and chief officers who manage volunteers within a volunteer or combination fire, rescue or EMS delivery system with information, education, services and representation to enhance their professionalism.

## Vision

To represent the interests of all volunteer and combination fire/rescue/EMS agencies. We will be a dynamic organization, characterized by our integrity, customer focus and membership development, with value placed on people and the superior utilization of technology. We will excel by creating educational programs, through unrivaled networking, and by helping VCOS members further their success and reach their potential.

## Slide 6 NVFC Mission - Vision

## Instructor Notes

## Our Mission

The mission of the NVFC is to provide a unified voice for volunteer Fire/EMS organizations.

## What We Do

The NVFC accomplishes its mission and provides meaningful support to fire and EMS organizations through a wide range of services and programs:

Representing the interests of the volunteer fire, emergency medical, and rescue services at the U.S. Congress, federal agencies, and national standards setting committees

Focusing on health and safety

Helping departments recruit and retain Fire Service and EMS/Rescue personnel

Providing training on topics that matter to you (Fire Service and EMS/Rescue)

Assisting departments in establishing support programs

Fostering the next generation of firefighters

Our many programs include:

Fire Corps

Heart-Healthy Firefighter Program

National Junior Firefighter Program

Make Me A Firefighter volunteer recruitment program

Share the Load

Wildland Fire Assessment Program

NVFC members also receive a wide range of benefits, including a \$10,000 AD&D insurance policy, access to members-only resources, discounts on training and fire

service products, and much more. Learn more about NVFC membership and join today.

Slide 7 and Slide 8 IAFC Academy

Slide 9 NVFC Online Learning

Slide 10 and Slide 11

Firefighters should be aware of the epidemic threat from repeated exposures to carcinogens...and the subsequent increase in occupational cancer amongst firefighters.

Instructor Notes

It's 2019 and the risk to firefighters health is increasing exponentially daily. The chemical makeup of the material that is burning from inside is more deadly today than a short time ago. Will you survive the job? You can! You must be smarter and more aware of the risks associated with being a firefighter. It is not just fires. There are chemicals that are used in our daily lives that create additional risk to firefighters.

Slide 12 FIREFIGHTER CANCER STUDIES

Firefighters are SIGNIFICANTLY more likely to develop four types of cancer than worker in any other field.

Instructor Notes

Firefighter Cancer Support Network - Instructor Manual. Page 15

Slide 13 "Occupational Cancer"

Instructor Notes

Occupational Cancer is the linking of the 2 words. Individually they mean nothing but when you link them the issue is clear. Firefighters have an increase in the occurrence of cancer because of the occupational hazards of the job.

Slide 14 Family Matters

Exposing yourself unnecessarily to carcinogens places your family well being at significant risk.

If you really enjoy being a firefighter then the actions you take should be to prolong this enjoyable experience.

It is not just about you!

There are many people who depend on you. Family, spouse, kids, parents, siblings, friends and acquaintances.

How cancer affects your family?

Untold ways - rest assured it is immense - time / stress / anxiety / interdependence / hospital stays / doctor visits / loss of dignity in some cases / etc.

Be a HERO - for your family!

We believe that firefighters perform heroic acts of Bravery and Courage while serving and protecting the public. Why shouldn't you take personal responsibility to perform a "heroic act" for yourself and your family.

Slide 15 Firefighter Cancer Studies  
Firefighter Cancer Support Network - Instructor Manual. Page 15

Dr. Grace LeMasters

Majority of study relied on death certificates.

20 cancers were identified - multiple myeloma, Non-Hodgkin lymphoma, prostate, testis, skin, malignant melanoma, brain, rectum, buccal cavity and pharynx, stomach, colon, leukemia, larynx, bladder, esophagus, pancreas, kidney, Hodgkin's disease, liver, and lung.

The chart indicates those cancers that are probable or significantly more likely to develop in firefighters.

Slide 16 Cardiac vs Cancer  
Instructor Notes  
Firefighter Cancer Support Network - Instructor Manual. Page 10

Since 2002, 63% of the firefighters on the IAFF Fallen Fire Fighter Memorial Wall of Honor have died from cancer.

Slide 17 It's In The Smoke

Instructor Notes

Define the toxins and other carcinogenic agents that are emitted during a fire incident. These are just a couple of chemicals that are in structural fire smoke.

Acrolein. Acrolein produces intense irritation to the eye and mucous membranes of the respiratory tract. Acute exposures may result in bronchial inflammation, resulting in bronchitis or pulmonary edema. CO is present in all fire environments as a product of incomplete combustion and decreases the oxygen transport of the blood, which results in an inadequate supply of oxygen to the tissues.

Formaldehyde. Formaldehyde is classified as a probable carcinogen and adverse health effects due to formaldehyde may occur after exposure by inhalation, ingestion or skin contact. Eye irritation can occur at concentrations of 0.01-2.0 ppm, irritation of the nose and throat at 1.0-3.0 ppm, and severe respiratory symptoms at 10-20 ppm.

Glutaraldehyde. Glutaraldehyde is a potent sensory irritant with the capability to cross-link or fix proteins.

In a report published in 2011, "A Study on Chemicals found in the Overhaul Phase of Structure Fires using Advanced Portable Air Monitoring available for Chemical Speciation," researchers focused on direct gas readings during overhaul, measuring these gases over an extended period in comparison to CO, and compiling data to understand post-fire event airborne hazards.

<https://www.oregon.gov/osp/SFM/Documents/AirMonitoringReport.pdf>

Slide 18 What Chemicals are Present?

#### Instructor Notes

All smoke contains carbon monoxide, carbon dioxide and particulate matter (PM or soot). Smoke can contain many different chemicals, including aldehydes, acid gases, sulfur dioxide, nitrogen oxides, polycyclic aromatic hydrocarbons (PAHs), benzene, toluene, styrene, metals and dioxins.

Slide 19 - Slide 20 - Slide 21 What your smelling is CANCER!

“Smells like paper burning to me.”

“My car smells like the structure fire we had yesterday

“When I shower I smell the fire we had the other day.”

#### Instructor Notes

“Off - Gassing”

Firefighters' personal protective equipment (PPE) ensembles will become contaminated with various compounds during firefighting. Some of these compounds will off-gas following a response, which could result in inhalation exposure. In some research the off-gassing measured contaminants at much 5 times increases in benzene and acetone just to name two.

In most cases the amounts were less than allowed for short-term occupational exposure limits. The key word is “short-term.”

Slide 22 Actions to reduce exposure to carcinogen.

Keep your mask on.

Remove contaminated gear as soon as possible.

Clean your neck, face, arms and groin thoroughly after each fire.

Shower, scrub and change into a clean uniform/clothes.

Regularly launder turnout gear and wash hood at least weekly

#### Instructor Notes

On the Fireground

Keep your mask on. Respiratory cancers are among the most common cancers among firefighters. Always wear your SCBA to avoid inhaling toxins, even when working on the edge of the fireground or during overhaul.

If you are smelling smoke - “In this day and age, it should be common knowledge. This shouldn't be a secret.”

Remove contaminated gear as soon as possible and store it in dedicated containers away from the rehab area. Keep soiled PPE out of the apparatus cabin, ambulance and personal vehicles – as well as your station living quarters – to avoid contaminating these areas.

Clean on the scene. Wash and decontaminate your PPE, your tools and your body as soon as possible after each fire, starting on scene. It's important to note here that although a recent AFG/CDC study found that scrubbing turnout gear with soap and water can reduce PPE contamination by 85 percent.

Clean your neck, face, arms and groin thoroughly after each fire. These are areas with lots of blood vessels where particulates tend to collect. It was once considered a badge of honor for a firefighter to come home with a sooty face, but we know better now. Take care to remove this threat to your health as soon as possible.

At the Station

Cleaning with soap and water on the fireground is an important first step, but it only moves the majority of the carcinogens off your gear. Get rid of the rest with a thorough decon back at the station.

Shower, scrub and change into a clean uniform. Using cleansing wipes for your face, hands, etc. on scene is an important first step, but that isn't near enough to thoroughly cleanse your body of the toxins from a fire. Put on fresh clothing. Whatever you were wearing under your turnout gear needs to go in the wash.

Regularly launder turnout gear and wash your fire hood at least once a week (better yet, after every fire). Make and stick to a schedule to be sure your gear is decontaminated. It's best to have two full sets of PPE and two hoods for every firefighter so that you can rotate.

Slide 23 Become comfortable in your PPE.

Instructor Notes

If your PPE does not fit appropriately obtain PPE that fits properly. You will be wearing your PPE more often and for longer periods of time. Put on your PPE and wear it for 30 minutes every day to become accustomed to the feel, additional weight and restrictions.

PPE donning and doffing is so basic you will have Firefighters who will say I don't need to do this "I am OK with my PPE."

Slide 24 If you ignore the risks associated with cancer - what do you think will happen to you?

Instructor Notes

You may die earlier than expected.

Slide 25 Not just a bunch of words.

Instructor Notes - these words and many others will require your action to help reduce your exposure to carcinogens.

Firefighters like staying in the "hot zone." That is where the action is - the "red devil." Remove yourself as rapidly as you can from the hot zone. Clean yourself. Clean your gear. Clean your equipment. Clean your apparatus. Minimal things you can do to minimize your exposure to carcinogens.

Respiratory issues - remember if you can't breathe - you can't live. No amount of smoke is good for you.

The volume of poisons in the smoke today is incalculable.

Slide 26 It is about your future.

Instructor Notes - wake up - be alert - be vigilant - don't succumb to peer pressure - don't worry about being called names - life isn't fair - you will not always be treated right but what you are being told today about of the many risks associated with the health risk to a firefighter is true and accurate.

You can't ignore the risks associated with the job. To be asleep and ignore the facts will result in your not being on the job for the period of time you hoped to..

Slide 28 - Funeral

Instructor Notes - failure to heed the warnings from this presentation may result in premature death - or early contraction of cancer and the subsequent treatment to survive.

Slide 30 and Slide 31 - You will hear...

Instructor Notes - lots of stories from veterans - lots of moaning and groaning and if you are weak you may believe - the veteran firefighters has done some absurd action but "I have never gotten cancer." That may be true. The smoke today is more toxic that it was 5 or 10 years ago. REMEMBER contracting cancer can be from one single event or multiple it can't be said definitively because it depends on the individual and that individual doesn't know it maybe when they are diagnosed with cancer.

Never let your guard down. Practice the 11 best practices to the best of your ability.

Slide 32 - Is Cancer A Death Sentence? Early detection is the key.

Instructor Notes - early detection means early treatment. Not necessarily. Early detection and treatment are the key to survival. Five-year survival rates for some cancers, such as breast, prostate, and thyroid cancers, now are 90 percent or better. The 5-year survival rate for all cancers combined is currently about 67 percent.

Slide 33 - What causes cancer? Can cancer be contracted from a single event? Why does one firefighter contract cancer and another does not?

Instructor Notes

Cancer is caused by genetic mutations.

Can be caused by the mutation of a single gene. ... Cancer usually results from a series of mutations within a single cell.

Occupational cancer is caused by aggregate amount of exposures.

There is not a clear Yes/No answer.

The cells can sit idle for years and then because of the mutation from a single event years ago - cancer becomes active.

Cancer is caused by harmful changes (mutations) in genes. Only about 5 to 10 percent of cancers are caused by harmful mutations that are inherited from a person's parents. The remaining 90 to 95 percent of cancers are caused by mutations that happen during a person's lifetime as a natural result of aging and exposure to environmental factors, such as tobacco smoke and radiation. These cancers are called "non-hereditary" or "spontaneous" cancers.

A substance that has been designated as a carcinogen, does not mean that the substance will necessarily cause cancer.

It is usually not possible to know exactly why one person develops cancer and another doesn't. Research has shown that certain risk factors may increase a person's chances of developing cancer.

What are those cancer risk factors?

It is usually not possible to know exactly why one person develops cancer and another doesn't. Research has shown that certain risk factors may increase a person's chances of developing cancer.

What are those cancer risk factors?

Age, weight, exposure to carcinogens, and genetics can increase the risk of developing cancer.

Cancer risk factors include exposure to chemicals or other substances, as well as certain behaviors. They also include things people cannot control, like age and family history. A family history of certain cancers can be a sign of a possible inherited cancer syndrome.

The list below includes the most-studied known or suspected risk factors for cancer. Although some of these risk factors can be avoided, others—such as growing older—cannot. Limiting your exposure to avoidable risk factors may lower your risk of developing certain cancers.

**INSTRUCTOR WRITE THESE ON A EASEL PAD / OR WHITE BOARD**

Age

Alcohol

Cancer-Causing Substances

Chronic Inflammation

Diet

Hormones

Immunosuppression

Infectious Agents

Obesity

Radiation

Sunlight

Tobacco

Slide 34 - Why does one firefighter contract cancer and another does not?

## Slide 35 Right Behaviors

Keep your mask on.

Remove contaminated gear as soon as possible.

Clean your neck, face, arms and groin thoroughly after each fire.

Shower, scrub and change into a clean uniform/clothes.

Regularly launder turnout gear and wash hood at least weekly.

## Instructor Notes

A recent NIOSH study confirms more than two-thirds of firefighters develop cancer versus less than a quarter of the general population. In particular, firefighters have a higher risk of respiratory, digestive and bladder cancers.

Carcinogens abound on any active fireground, and the increased use of synthetic materials and plastics in construction and furnishings means increased exposure to harmful chemicals like benzene and formaldehyde from burning walls, insulation and furniture. These substances may be inhaled or absorbed through the skin. "In this day and age, it should be common knowledge. This shouldn't be a secret."

Remove contaminated gear as soon as possible.

Clean on the scene.

It's important to note here that although a recent AFG/CDC study found that scrubbing turnout gear with soap and water can reduce PPE contamination by 85 percent, this process does not neutralize or eliminate carcinogens – it simply removes them to the wash water or runoff, which still contains the hazardous chemicals.

Also, be sure to put on fresh clothing. Whatever you were wearing under your turnout gear needs to go in the wash.

Regularly launder turnout gear and wash your fire hood at least once a week (better yet, after every fire). Make and stick to a schedule to be sure your gear is decontaminated. It's best to have two full sets of PPE and two hoods for every firefighter so that you can rotate.

If you launder the gear in house, use a detergent that decontaminates and is tested and certified safe by NFPA standards for PPE, including fabrics, tape and liners.

Of course, healthy habits like exercise, eating veggies and lean meats and wearing sunscreen will also help. But thorough cleaning and decontamination of PPE to get rid of the contaminants known to cause cancer will go a long way to ensuring a long career and a healthy retirement.

Slide            North Carolina Cancer Video

Slide 38

BE SMART

AVOID EXPOSURE

NEUTRALIZE CONTAMINATION

DECON SOONER