Welcome to the NVFC’s Train Strong Webinar Series.

Today’s webinar is “Practical Solutions for Volunteer Departments for Cancer Risk Reduction.”
The National Volunteer Fire Council (NVFC) is the leading nonprofit membership association representing the interests of the volunteer fire, EMS, and rescue services. The NVFC serves as the voice of the volunteer in the national arena and provides invaluable resources, programs, education, and advocacy for first responders across the nation.

NOT A MEMBER? Visit nvfc.org/join-nvfc today and you will be eligible for a wide range of benefits including insurance, training, special member promotions, and more!
PANELIST

• Ed Mann
  • Director of Training and Education
  • More than 40 years of experience with the volunteer fire service
  • Deputy Fire Chief, Logan Volunteer Fire Department, Mifflin County, PA
AGENDA

• A quick review as to why reducing the cancer risk is important.
• Practical steps you can take before the fire.
• Practical steps you can take at the fire.
• Practical steps you can take after the fire.
2010 STUDY BY DR. ROBERT D. DANIELS FROM NIOSH

• Firefighters have a 9% higher risk of being diagnosed with cancer than the general population.

• Firefighters have a 14% higher risk if dying from cancer than the general population.
EVIDENCE BASED SCIENCE
TELL US WE ARE EXPOSED

Carbon Monoxide  Hydrogen Cyanide
Ammonia          Asbestos
Benzene          Styrene
Phosgene         Formaldehyde
Chloroform       Carbon Dioxide
Acrolein         Arsenic
Polycyclic aromatic hydrocarbons (PAHs)

This is a just a partial list
HUMAN HAIR
50-70 μm (microns) in diameter

PM<sub>2.5</sub>
Combustion particles, organic compounds, metals, etc.
< 2.5 μm (microns) in diameter

PM<sub>10</sub>
Dust, pollen, mold, etc.
< 10 μm (microns) in diameter

90 μm (microns) in diameter
FINE BEACH SAND
2006 ANALYSIS BY DR. GRACE LEMASTER’S OF 32 DIFFERENT STUDIES REVEALED:

- Firefighters are exposed to many different carcinogens: Benzene, diesel exhaust, chloroform, soot, styrene and formaldehyde are the leaders!
- Many of these chemicals can be inhaled, ingested and injected: MORE IMPORTANTLY they can be ABSORBED!
- **SOOT** contains polycyclic aromatic hydrocarbons (PAHs) many of which are **KNOWN carcinogens** in humans!
SKIN ABSORPTION

• For every 5-degree increase in skin temperature there is up to a 400% increase in skin absorption!

Dr. C Stuart Baxter, University of Cincinnati
PRACTICAL-INEXPENSIVE STEPS YOUR DEPARTMENT CAN TAKE BEFORE THE FIRE

• Establish Red, Yellow and Green Zones within your station or Hot, Warm and Cold Zones.
• Clean the cabs of your apparatus.
• Clean the tools and equipment on your apparatus and station.
• Make the effort to get two sets of gear for your more active people.
• Remove ice machines and refrigerators from apparatus areas.
• Use grant funding to purchase vehicle exhaust systems.
• Develop, implement and enforce an SOP/SOG.
• Ensure current PPE is clean this includes, helmet, hood, gloves, turn out gear and boots.
PRACTICAL-INEXPENSIVE STEPS YOU CAN TAKE BEFORE THE FIRE

• Ensure your doctor knows you’re a firefighter.
• Get an annual physical to include cancer screenings.
• Get an annual check-up from a dermatologist.
• Limit your exposure to diesel exhaust.
• Make a concentrated effort to quit using tobacco including smokeless.
• Don’t carry contaminated gear in your personal vehicle.
• Shower within the hour.
• Wash your gear.
• Eat a balanced meal of fruits, vegetables, and high-fiber food.
• Eat less processed meat/red meat and high calorie foods.
• If alcohol is consumed, do so in moderation.
PRACTICAL STEPS YOU CAN TAKE AT THE FIRE SCENE

• Wear all your gear.
• Wear your SCBA even during overhaul.
• Wear your hood even while working outside.
• Work up-wind of smoke whenever possible.
• Limit your exposure to diesel exhaust.
• If practical, shut down apparatus not being used.
• Make an effort to remove gear including gloves as you would if exposed to a blood borne pathogen.
USE CLEANSING WIPES

• Studies have shown that Polycyclic Hydro Carbons levels were reduced by 54% by simply wiping the neck and jaw area with a cleansing wipe.

• Use the wipes to clean your hands or other skin that was exposed.

• It’s suggested you use alcohol free wipes.
ON SCENE DECONTAMINATION WORKS

Results from scientific study:

- Contamination reduced by 85% with wet-soap and brush
- Dry Brush reduced contamination by 23%
- Air based decontamination reduced contamination by 0.5%
INEXPENSIVE DECONTAMINATION KITS

- 3 kits total cost $78.00
- Dish soap
- Scrub brush
- Heavy duty garbage bags (should be clear)
- Cleansing wipes
- Rubber gloves
OTHER ITEMS FOR WET DECONTAMINATION
KEEP DIRTY PPE, TOOLS AND EQUIPMENT OUT OF THE CABS

• Decontaminated PPE should be placed in clear garbage bags and placed in the bed of vehicle.
• If wet decontamination isn’t practical due to weather allow PPE to off gas then bag it.
• Contaminated tools and equipment should be decontaminated and placed in the bed of a vehicle.
PRACTICAL STEPS TO BE TAKEN AT THE STATION AFTER THE CALL

• Shower within the hour.
• Consider keeping an extra set of clean clothes at the station.
• Wipe down interior surfaces of apparatus.
• Advanced cleaning of PPE.
• Clean tools and equipment.
• No PPE in living areas of the station.
ADVANCED CLEANING OF PPE

• Review NFPA Standard 1581.
• PPE should be handled with disposable gloves.
• Liners should be washed separately from shells.
• Ensure all enclosures are fastened.
• Use detergent that has an undiluted PH between 6.0 and 10.5.
• Water temperature should be limited to 105 degrees.
EXTRACTOR OR HEAVY DUTY FRONT LOADED MACHINE
DRYER
ARE THERE CANCER PRESUMPTION LAWS IN YOUR STATE?

• If so, are you familiar with them? What are the pre-requisite requirements?

• Do you have a plan to help your personnel when they tell you they have been diagnosed with cancer?

• Use the Firefighter Cancer Support Network:
  • FirefighterCancerSupport.org
  • 866-994-3276
ADDITIONAL RESOURCES

Lavender Ribbon Report

New York State Fire Takes Major Steps to Protect Firefighters
SOURCES USED

- **Lavender Ribbon Report**
- Reports presented at 2017 Cancer Symposium sponsored by NFFF
- The Firefighter Cancer Support Network.
- Article written by Dr. Sara Janke, Director of the Center for Fire, Rescue and EMS Health.
- [WWW.ToxTown.com](http://WWW.ToxTown.com) managed by the National Institute for Health
- Video of Palm Beach County obtained from PIO, Captain Albert Borrote
- Kent County Washington Fire Department obtained from Healthy In-Healthy Out Website
- Chief Logan Volunteer Fire Department Mifflin County, Pa.
Post-webinar thoughts or questions?

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Or contact Caroline Stachowiak at: caroline@nvfc.org
THANK YOU!

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