

2012 Fire/EMS Safety, Health and Survival Week – Safety Bulletin

Developed by: The Valley Safety Officers Committee

“Stay Out of the Smoke”

All of us would like to retire healthy and enjoy our families and hobbies. This year’s Safety Stand-Down Message is a reminder that smoke contains toxins and carcinogens. **DON’T BREATHE THE SMOKE** and you are more likely to stay healthy.

Today’s fires whether they’re incipient, free burning or smoldering emit lethal toxins and carcinogens. Let us repeat, **ALL STAGES OF FIRE CONTAIN TOXINS AND CARCINOGENS.**

Today’s typical fires contain volatile chemicals which burn three times hotter and produce toxic levels of poisonous and carcinogenic substances. Even the overhaul operation at a fire contains levels of toxins and carcinogens that range from “acceptable” to IDLH. Today’s average home has 1700 lbs. of chemically manufactured products inside.

Recent scientific studies have revealed the presence of the following chemicals during all stages of fire:

Carbon Monoxide - (Toxin) Prolong exposure leads to brain damage and/or death.

Acrolein - (Carcinogen) Used as a chemical weapon in WWI.

Hydrogen Cyanide - (Toxin) LOC changes, cardiac arrhythmias, respiratory depression.

Formaldehyde - (Carcinogen) Usually causes nasal cancer and likely to cause leukemia.

Glutaraldehyde - (likely Carcinogen) known to cause nasal irritation and cause nasal tumors and cancer in lab tests.

Asbestos - (Carcinogen) Respiratory congestion

Benzene - (Carcinogen) Central nervous disorders, cardiac irritation.

Others - Sulfur Dioxide, Polynuclear Aromatic Hydrocarbons (PNA), Polycyclic Aromatic Hydrocarbons (PAH)

In perhaps what might be called the granddaddy of firefighter cancer studies in recent years, the University of Cincinnati’s Grace LeMaster, PhD, did a medical analysis of 32 previous cancer studies. The study, *“Cancer Risk Among Firefighters: A Review and Meta-analysis of 32 studies”*, found that, “firefighters had a probable cancer risk for multiple myeloma, non-Hodgkin lymphoma, prostate, and testicular cancers. Numerous other types of cancer were also noted but didn’t get the “probable” label. A “probable” risk category is the highest risk rating given in this type of study.

Please review the PFN video presentation “Don’t Breathe Smoke” and discuss as a crew. Access to this video will be made available by your department representative.

What we are about to share with you is based on the latest information related to cancer research for firefighters.

Firefighters need to do the following to lessen cancer risks on the job:

- Wear PPE (most notably SCBA) in or around all fires when you are in any of the smoke. This includes all phases of overhaul / investigations.
- Take a shower immediately after each incident to lessen your skin contamination risk.
- Bag turnouts before putting them on your apparatus for the ride back to quarters to reduce the inhalation hazard of turnout off-gassing and particulate distribution.
- Thoroughly rinse turnouts after each fire and perform advanced cleanings at least once a year.
- Stay away from diesel fumes in quarters or out on the scenes.
- Eat a well-balanced diet rich in green leafy vegetables, and antioxidants.
- Balance your exercise with both outdoor and indoor workouts.
- Follow your yearly scheduled fitness and wellness exam recommendations.

Company Officers need to do the following to lessen cancer risks on the job:

- Lead by example. The end game isn't just going home tomorrow, but a healthy retirement.
- Ensure firefighters do the above.
- Recognize that all types of fires have poisonous smoke and enforce the wearing of SCBA. N95 and dust masks are NOT sufficient protection.
- Get your crew back to quarters to take showers after a fire.
- Communicate to your crew that Valley departments are looking for suitable respiratory protection for overhaul other than SCBA. However it has not been found yet.
- Consider rehab needs when FF's are doing overhaul.

Chief Officers need to do the following to lessen cancer risks on the job:

- At multiple unit fire responses use **"first in - first out"** demobilization plans.
- Allow demobilized units enough out-of-service time to get back to quarters to shower and clean up.
- Enforce SCBA use at all fires - for all stages of the fire.
- Change any procedures or operations that prevent or discourage SCBA use.
- Rehab firefighters then get them off the scene ASAP.
- Consider doing post-incident reviews (tailboards) at, or during, Rehab.

Contact the Valley Safety Officers Committee (supporting Valley Safety and Wellness initiatives) with any improvements or ideas for reducing cancer risk in the fire service.

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Additional Information:

[International Fire/EMS Safety & Health Week - Rules You Can Live By](#)

[Safety & Health Week Resources](#) [Rules of Engagement for Structural Firefighting Doc](#)

Additional Resources for Discussion ideas:

[Firefighterclosecalls.com](http://firefighterclosecalls.com)

<http://everyonegoeshome.com/>

A special thanks to Chief Case (PFD), Chief Keough (MFD) and the Valley Safety Officers Committee for assisting with this years safety message.