



An Introduction To Gross Decontamination

FSI News / By Graham Conron

Graham Conron April 15, 2019

What is Gross Decontamination?

As defined by the *Journal of Emergency Medical Services*, Gross Decontamination is “the physical process of immediately reducing contamination on patients in potentially life-threatening situations with or without formally establishing a decontamination corridor”. Gross Decontamination is an essential form of PER (Personal Exposure Reduction) and should not be overlooked by any agency concerned about the health of their firefighters and first responders.

There is a growing trend in the life safety industry – due to NFPA1851 and the urgent need to find ways to reduce cancer in firefighters and rescue personnel – toward small, portable, and rapidly deployed PER (Personal Exposure Reduction) Gross Decon Showers such as FSI North America®’s DAT1010S and DAT2020S. FSI’s Gross Decontamination Showers are ideal for use on firefighters and rescue personnel exiting a highly contaminated emergency scene, such as a fire or other highly carcinogenic environment. Put your trust in FSI North America for the decontamination and safety of your firefighters and first responders. FSI’s DAT1010S and 2020S Gross Decontamination Showers are ANSI #113 Compliant and in accordance with NFPA 1851, Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting.

Why is Gross Decontamination Important?

Over the years, the incidence of cancer among firefighters in the United States alone has been shown to be 13 times higher than that of the general population. This data has been collected directly from the [CDC](#), [NBC](#), [BMJ Journal of Occupational and Environmental Medicine](#), and more. The following excerpts are taken from various publications and statements readily found in the public domain.

In the US, laws in nearly 40 states have expanded medical workers’ compensation and disability coverage for exposure-related cancer cases, and fire departments are revamping training and how first responders’ gear is handled and decontaminated to eliminate carcinogens and lessen cancer risks.

Recently, a bill to create a national registry of firefighters diagnosed with cancer was introduced with bipartisan support in the United States. Ohio’s governor signed into law a measure extending firefighters’ coverage for workplace cancers.

In 2015, the Centers for Disease Control and Prevention released the final results of what might be the largest study of cancer risk among career firefighters ever conducted in the United States. The study of about 30,000 firefighters over a 60-year span showed that compared with the general population,

firefighters on average are at higher risk for certain kinds of cancer — mainly oral, digestive, respiratory, genital and urinary cancers. The CDC also found that firefighters who were exposed to more fires than their peers experienced more instances of lung cancer and leukemia.

Fires carry soot, smoke, and other dangerous carcinogens from burning high-toxin synthetic material and electronics. Exhaust fumes from diesel engines present at the scene of an emergency can pose an additional hazard on first responder's health. The protective gear that insulates firefighters from heat and flames also raises internal body temperatures, opening pores to absorb airborne chemicals. Embedded smoke and soot on a firefighter's gear and helmet used to be a sign of an experienced firefighter – but more and more people are beginning to realize it is instead the signs of an impending health crisis. Concerned with the results of the CDC study, and similar research coming out of Norway and Australia — fire departments and firefighters' unions nationwide are revamping their safety policies.

How Can FSI Help?

FSI North America® has served the life safety industry for 21+ years, and our personnel have well over 100 years combined of direct interaction with the fire service and all other types of rescue personnel. Virtually every one of us has seen cancer strike down one or more of our firefighter or first responder friends.

With the information readily available about the necessity for Gross Decon practices, FSI North America® is here to help. Why is it that when a firefighter leaves the scene of the fire, one of the first things they do is turn off their breathing air and take off their face mask and helmet and loosen or remove their turnout gear? It's certain they are hot, tired, and sweaty – and want their gear off of them as quickly as possible. However, the second they turn off their breathing apparatus and take their masks off, they are breathing in the harsh cancer-causing fumes and absorbing the sooty carcinogenic chemicals into their skin that are embedded in their equipment as it is removed.

Why not add one small step to fire fighting – Gross Decontamination – to shower the firefighter once they exit the building, before they turn off their breathing apparatus or remove their gear.

As Troy Jackson of South Metro CO has stated in favor of Gross Decon practices, “We'll actually treat a structure fire more like a hazmat call, so our firefighters will actually go through a decontamination process at the fire scene,” Jackson said.

For maximum safety for first responders and firefighters, you can consider FSI's Portable Gross Decon showers. FSI's Gross Decon Showers come in all sizes and configurations and can be set up rapidly by a pump operator in just minutes. These small portable showers are ideal for the efficient, effective decontamination and privacy for the male or female firefighter; for added warmth in colder climates; and for the isolation and containment of carcinogens and cancer-causing agents after decontamination occurs.

Put your trust in FSI North America for the decontamination and safety of your firefighters and first responders. FSI's DAT1010S and 2020S Gross Decontamination Showers are ANSI #113 Compliant and in accordance with NFPA 1851, Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting.

How to Use FSI North America's Gross Decon Showers

On exiting the fire scene to take actions as follows:

- Do not turn SCBA air off nor remove mask or PPE.
- Enter FSI Gross Decon Shower as set up by the pump operator – likely located near the pumper.
- Shower in privacy for modesty and to stay out of the weather and eyes of the public or press.
- PPE can remain on in shower and then upon exit, turn off air and remove all – then bag and tag and send PPE to laundry.
- Or, PPE can be removed inside shower (once showering is completed) and discharged through the large ducts into a hard sided overpack drum or laundry bag.
- FSI Showers per ANSI #113 Standards offer a fine water drenching mist WITHOUT high pressure forces that can push carcinogens further into PPE.

For further information on FSI's Gross Decontamination Showers and our impact on NFPA 1851, visit our other article Cancer And The Firefighter [here](#).

Sources

<https://www.cdc.gov/niosh/updates/upd-10-17-13.html>

<https://www.wthr.com/article/cancer-is-the-biggest-killer-of-americas-firefighters>

<https://oem.bmj.com/content/71/6/388.full>



FSI GROSS DECON PERSONAL EXPOSURE REDUCTION

Gross Decontamination to Reduce Carcinogens - a Critical Component of Personal Exposure Reduction per NFPA1851

Exit the Fire Scene - **Do Not** turn off scba or remove PPE - **Do Enter** a FSI® Decon Shower

FSI Decon Shower Systems set up in minutes, have a small footprint, are rugged and durable, require little training, are fully enclosed and configured on set up, offer privacy/escape from prying eyes and inclement weather, and in accordance with ANSI #113 Standards offer a fine water drenching mist WITHOUT high pressure force that can push carcinogens further into PPE. Removal of particulates can reduce PPE contamination by an estimated 85%*

There is a growing trend in the fire industry - based on the urgent need to find ways to reduce cancer in firefighters - and in accordance with NFPA 1851, Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting - toward on scene, small, portable, and rapidly deployed PER (Personal Exposure Reduction) Gross Decon Showers such as the FSI® DAT1010S and DAT2020S or any other of FSI's extensive range of Portable Gross Decontamination Showers.



On exiting the fire scene take action as follows**:

- Do not turn SCBA air off nor remove mask or PPE.
- Enter FSI Gross Decon Shower as set up by the pump operator – likely located near the engine.
- Shower in privacy for modesty and to stay out of the weather and the view of the public or press.
- PPE can remain on in shower and then upon exit, turn off air and remove all – then bag and tag and send PPE to be washed. OR PPE can be removed (once showering is completed) and discharged through the large ducts into a hard sided overpack drum or laundry bag.
- FSI Showers per ANSI #113 Standards offer a fine water drenching mist WITHOUT high pressure force that can push carcinogens further into PPE.

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** These are FSI recommendations only - follow all protocols as developed by your department/county/state

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