

Firefighter Cancer



Establish a comprehensive firefighter cancer strategy that invests in research, provides access to cancer screening for firefighters, and reduces and eliminates PFAS exposure.

Issue

Firefighters have a 9% higher risk of developing cancer and a 14% higher risk of dying from cancer compared to the general public.

Prior the 2022 Summit, the World Health Organization's International Agency for Research on Cancer (IARC) rated a firefighter's occupational exposure at its highest level, a "Class 1 threat carcinogenic to humans¹." The IARC Working Group cited other findings, including "sufficient evidence" to connect the occupational exposures associated with firefighting with mesothelioma and bladder cancer. They also found "limited evidence" to link firefighting and colon, prostate, and testicular cancer.

IARC's designation is a game-changing opportunity to further consolidate hard-won gains in research and knowledge into profound impacts.

Impact Areas

Research

More investment in research is needed to expand our understanding of the mechanisms between occupational exposures and cancer, including why firefighters are at heightened risk from some cancers. Research is also needed to understand better the cancer risks of understudied populations, including women and people of color.

In 2018, Congress funded the creation of the National Firefighter Registry (NFR) for Cancer.

The registry is open to all firefighters and is the largest effort to date to investigate and reduce cancer risk in U.S. firefighters. The registry is a critical pathway to addressing cancer risk, and all firefighters are encouraged to register².




Access to cancer screenings

Preventative screenings can identify cancer in its earliest stages when positive treatment outcomes are more likely. Nevertheless, it remains difficult for individual firefighters to receive early screenings as current screening guidance does not account for their occupational exposures. Revised screening guidance can help medical professionals and insurance companies understand the need to screen firefighters based on their higher cancer risk.

Reduce and eliminate PFAS and other toxicant exposures


PFAS and other toxicants disrupt an individual's fundamental physiology, leading to wide-ranging negative health impacts for firefighters, including cancer and heart disease as well as sleep and reproduction issues.

PFAS are carcinogenic chemicals that degrade very slowly, earning the label "forever chemicals." PFAS are found in a firefighter's blood, their firehouses, some firefighting foams, and perhaps most concerning, bunker gear³. Next-generation PFAS-free PPE, along with science and risk-based mitigation programs, can lessen these risks.


More Information ▶ 

CANCER RESEARCH


Firefighter Routes of Exposure to Cancer Causing Substances



Inhalation
From breathing contaminants due to not wearing a SCBA, or to ill-fitting or defective SCBA



Absorption
From contaminants going through, around, or under gear and contacting the skin



Ingestion
From touching contaminated gear and not washing hands properly before eating

Fire Service: Increase training and education about safe work practices to reduce cancer exposures.



Read more: <https://bit.ly/3mzSRag>

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International Agency for Research on Cancer
World Health Organization

IARC MONOGRAPHS VOL. 132: OCCUPATIONAL EXPOSURE AS A FIREFIGHTER

Occupational exposure as a firefighter is **carcinogenic to humans (Group 1)** on the basis of **sufficient evidence for cancer in humans**

GROUP 1

GROUP 2A



GROUP 2B

GROUP 3






The IARC Monographs classification indicates the level of certainty that an agent can cause cancer (hazard identification)

Higher level of certainty Lower level of certainty






Cancer types with **sufficient evidence** for cancer in humans:

 Mesothelioma
  Bladder cancer

Cancer types with **limited evidence** for cancer in humans:




 Colon cancer
  Prostate cancer
  Testicular cancer
  Melanoma of the skin
  Non-Hodgkin lymphoma

Strong mechanistic evidence in exposed firefighters

 Genotoxicity
  Epigenetic alterations
  Oxidative stress
  Chronic inflammation
  Modulation of receptor-mediated effects

Exposures of firefighters include combustion products, diesel exhaust, building materials, asbestos, chemicals, shift work, ultraviolet radiation

Firefighters respond to various types of fire

 Structure
  Wildland
  Vehicle

https://www.iarc.who.int/wp-content/uploads/2022/07/Infographic_MONOGRAPHS_VOL_132.jpg

¹ International Agency for Research on Cancer. Volume 132: Occupational exposure as a firefighter. Lyon, France; June 7–14, 2022.

² About the NFR. Centers for Disease Control. <https://www.cdc.gov/niosh/firefighters/registry/aboutnfr.html>

³ Researchers Pin Down PFAS Prevalence in Firefighter Gear. NIST. May 2023. <https://www.nist.gov/news-events/news/2023/05/researchers-pin-down-pfas-prevalence-firefighter-gear>