Washington State Department of Labor & Industries | FIIRE Firefighter Injury and Illness Reduction

Best Practice Considerations: Carcinogen Exposure Reduction

The following list of best practices are adapted from "Healthy In/Healthy Out" and the "Lavender Ribbon Report: Best Practices for Preventing Firefighter Cancers" providing a resource to reduce the potential exposure to carcinogens. The list covers a range of cost and effectiveness, to include different budget considerations and ease of adoption.
The best practices, or tasks, are divided into **two** effort categories:

- **QUICK WINS:** High impact for low effort
- **PROJECTS:** High impact for high effort

The differences in effort provide choices from which an organization could choose from to work towards a safer and healthier workplace.

Operational or Administrative

QUICK WINS or high impact for low effort tasks

- *In Safety Committee: conduct a root cause analysis to identify, analyze, and mitigate root cause to prevent future occurrence of an incident and review occupational exposures*
  - Safety Committees and Meetings (Pub # F417-043-000) (L&I)
  - Safety Meetings video training (L&I)
  - Safety and Health Workshops (L&I)
- *Document exposures, injuries, and illness*
  - PIIERS (WSCFF)
  - NFORS
  - NFRS (NIOSH)
  - NFIRS (US Fire Administration)
- *Conduct initial recruit and annual refresher training to include cancer awareness, wellness, and fitness*
  - Cancer Awareness (IAFF)
  - Cancer 101 Factsheet (IAFF)
  - Cancer Screening Factsheet (IAFF)
  - Carcinogenic Exposures Factsheet (IAFF)
  - Exposures to Carcinogens Factsheet (IAFF)
  - Wellness and Fitness Initiative (IAFF)

PROJECTS or high impact for high effort tasks

- *Use apparatus design with solid, cleanable surfaces (whenever possible)—Clean, or Healthy, Cab*
  - Clean Cab Concept Factsheet (IAFF)

- *Use engineering controls every time an apparatus enters and/or exits the fire station to reduce or eliminate diesel exhaust in the fire station confines*
  - Direct Source Capture (e.g. Local Exhaust Ventilation (LEV))
  - Mechanical Ventilation (e.g. High Volume Low Speed Fan (HVLS))
  - Vehicle Modification
  - Multi-Stage Filtration System
  - "How to Buy Exhaust Removal Systems", Fire Rescue 1, Lexipol, 2020
  - "Safety and Health Considerations for the Design of Fire and EMS Stations", FEMA-US Fire Administration, 2018
  - "Controlling Diesel Exhaust Exposure Inside Firehouses", FireEngineering, 2011, (https://www.fireengineering.com/leadership/controlling-diesel-exhaust-exposure-inside-firehouses/)
- *Periodic testing of fire station as part of facilities maintenance [from MRSA, radon, asbestos, diesel exhaust, among other surface and airborne contaminants]*
  - "Safety and Health Considerations for the Design of Fire and EMS Stations", FEMA-US Fire Administration, 2018
- *Practice general wellness: annual physical (including cancer screenings)*
  - Modifiable Risk Factors Factsheet (IAFF)
  - Occupational Cancer and Behavioral Health (IAFF)
  - Wellness and Fitness Initiative (IAFF)
  - Cancer Screening Factsheet (IAFF)
  - NFPA 1582: Standard on Comprehensive Occupational Medical Program for Fire Departments
  - Cancer Risk in Firefighting Factsheet (NFPA)
  - Be Fit For Your Crew (NVFC Communications)
- *Provide second set of turnout gear*

Reduce Exposure **Before** or **During** Potential Exposure Event

QUICK WINS or high impact for low effort tasks

- *Use sunscreen*
- *Limit, do not use tobacco products*
  - Limit use of tobacco products (NVFC)
  - Put It Out: Smoking Cessation Resources for Fire/EMS (NVFC)
- *Exercise daily*
- *Use station shoes*
- *Limit time in hot zone*
- *Ensure full PPE and SCBA use during all fire [and EMS] calls, during entire incident including salvage/overhaul*
  - Self-Contained Breathing Apparatus (SCBA) Through Overhaul Factsheet (IAFF)

PROJECTS or high impact for high effort tasks

- *Limit time support personnel (e.g. driver/engineer, rehab unit, incident commander, and other support staff) are in potentially contaminated areas*
  - Shower within the hour (NVFC)

Reduce Exposure **After** Potential Exposure Event

QUICK WINS or high impact for low effort tasks

- *Institute an on-scene hood exchange program*
  - Second hood (NVFC)
- *Transport PPE in encapsulated bag to prevent further exposure and/or cross-contamination to apparatus and personnel (e.g. place in sealed plastic bag and place in exterior compartment of apparatus)*
  - Change clothes and wash after exposure; isolate until washing is available (NVFC)
  - Prevent Cancer Serve Strong (NVFC Communications)
- *Provide a hand washing station on apparatus, warm water and soap, or disposable wipes to clean hands, face, and neck*
  - Infographic: 7 steps to clean Firefighting Turnout Gear (WSCFF)
  - Key steps you should take BEFORE leaving the fire ground (LION)
  - Fireground Exposure Control-Doffing Gloves (IFSI)
  - Fireground Exposure Control-Doffing Hood (IFSI)
  - Gross decon after exposure (NVFC)
- *Clean, disinfect, and maintain apparatus and stations to reduce exposures*
  - Clean Cab Concept Factsheet (IAFF)
  - Fire Station Design: Best Practices to Reduce Exposures (IAFF)
  - "Safety and Health Considerations for the Design of Fire and EMS Stations", FEMA-US Fire Administration, 2018

PROJECTS or high impact for high effort tasks

- *Release the most contaminated personnel first to reduce continued exposure—First In, first home.*
  - Shower within the hour (NVFC)