

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*
 - [PIERS \(WSCFF\)](#)
 - [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)