

Firefighters, who risk their lives as part of the normal course of performing their job, could also be at risk for a much more insidious threat than the immediacy of burns and injury they face every day. Mesothelioma – the deadly asbestos cancer which affects the outer lining of the heart, stomach and lungs – is of particular concern to firefighters.

First, it's important to understand what asbestos and mesothelioma are, and how the two are linked. Asbestos is a fibrous mineral which, besides being strong, flexible and lightweight, has a remarkable ability to withstand fire and extremely high temperatures. For this reason it was widely used throughout the 20th century as an additive to insulating materials as well as to concrete and other industrial products. Asbestos has been used in insulation, floor and ceiling tiles, roof shingles and siding, pipe cement, joint compound and plaster.

When the asbestos remains stable within a structure, it is relatively safe. When it is destroyed or damaged, however, it releases millions of microscopic fibers into the air. These needlelike fibers can be inhaled or ingested, and once inside the human body, can be lodged in the soft tissues such as the organs or the mesothelium – a protective covering around the lungs, abdominal cavity and heart. Once there, the fibers cannot be removed.

Although it may take many years after the initial exposure to asbestos, these fibers can eventually cause the individual to develop pleural mesothelioma, pleural plaques, asbestosis or lung disease. All of these diseases are devastating. The prognosis for mesothelioma, in part because it may not manifest itself until 20-50 years after the asbestos fibers were first breathed in, is particularly grim.

Anyone who comes into contact with damaged structures, such as residential or commercial buildings, especially those that were built between 1920 and 1980, is at risk for asbestos exposure. Unless proper safety procedures, such as the use of protective gear and respirators, are followed, the asbestos presents a grave threat to anyone in the vicinity.

Firefighters, of course, wear such protective clothing and use respirators when battling blazes. Why, then, are they so vulnerable to asbestos exposure and, in turn, mesothelioma? The real risk comes during the overhaul portion of the job, once the fire has been contained and the workers are searching for hotspots or conducting other inspections. Since the fibers are not combustible, they may remain airborne during the aftermath of the blaze. Post-fire inspections, as well as entry and venting techniques, are sometimes conducted without proper respiratory protection. Ceilings or walls that are opened in order to determine that the fire is completely extinguished can also pose a significant hazard of asbestos exposure. Studies have shown that airborne toxins such as asbestos and PVC remain at high levels even after a fire has been extinguished. None of the active on-scene aspects of a firefighter's job should be performed without a respirator and protective gear.

The asbestos fibers, moreover, can settle on and cling to a firefighter's or other asbestos worker's clothing or protective equipment. There have been cases in which people have contracted mesothelioma and other asbestos-related diseases simply by handling contaminated clothing over a period of years, as a spouse or caregiver would. It is necessary to wash all clothing and safety equipment that may have become contaminated with asbestos – preferably at the scene, but otherwise as soon as possible after leaving the scene. Firefighters should also shower as soon as possible after a fire, to reduce the amount of airborne asbestos particulate which will remain on their skin.

Another technique for reducing the possibility of airborne asbestos fibers is to wet the building materials or any areas of the structure that have been damaged, including the remains of the fire itself.

Firefighters face many hazards during the line of duty, and the risk of contracting mesothelioma cancer or asbestos cancer are one of many potential risks involved in pursuing this heroic career. With the proper safety protocols, however, a firefighter can help minimize the potential for harm from asbestos and other airborne toxins, as well as from the inferno itself.