



## UK Fire: Firefighter Training article

### Heading: Training for our Firefighter's Futures

*Brian Hesler, Consultant and Specialist Advisor at [Draeger Safety UK](#) and former Chief Fire Officer for the Northumberland Fire and Rescue Service, describes the cultural change that is required within training schemes to further firefighter health and well-being, how Covid-19 has escalated the importance of this shift and what role manufacturers of medical and safety technology should play in driving this change.*

The importance of firefighter health has received increased media attention in recent times, and rightly so. Covid-19 has highlighted the risks that all essential workers face when performing their critical roles throughout a pandemic and firefighters have been very much on the front line, changing roles to support the wider Emergency Services, and ultimately putting themselves at a higher risk of infection.

More emphasis is now being placed on hygiene and disinfection, which I believe will be one positive outcome of this pandemic. A significant cultural change has been a long time coming to take us away from firefighters wearing dirty kit as a badge of honour that proves their hard work and value, to understanding that clean and well maintained kit supported by detailed and robust hygiene processes that mitigate every contact with contaminants are essential.

Prior to Covid-19, the media were also reporting more regularly on the very real issue of firefighters' exposure to carcinogens. Embedded carcinogens in any equipment can be absorbed by the firefighter and the cancers mostly responsible for this higher risk are respiratory, GI (oral cavity, oesophageal, large intestine) and kidney.

Cancer has been highlighted in some scientific reports to be the leading cause of death among firefighters, with [the International Association of Firefighters \(IAFF\)](#) reporting that cancer caused nearly two out of three (61%) firefighter line-of-duty deaths between 2002 and 2017. [The National Institute for Occupational Health and Safety \(NIOSH\)](#) also found that in the US, firefighters had a 14 percent higher chance of dying of cancer compared to the general population. The results of these reports need to be underpinned by robust medical research to reflect the landscape, culture, current standards and operational practices for Fire Services in the UK.

While these shocking statistics are relatively well known, not enough has been done to force a change. Manufacturers of medical and safety technology products have a responsibility to innovate solutions that support change. To this end, Dräger's Health for the Firefighter campaign complements our training programmes and communicates the importance of detailed hygiene processes; from the handling and storage of masks and breathing apparatus equipment through to the subsequent

cleaning of the kit after an incident has occurred. Training is the first and crucial step in guiding a cultural shift, and ultimately protecting the health and well-being of our firefighters.

### **Contemporary Training Protecting our Firefighters**

It's important that training programmes reflect the fact that Fire Services are the experts – they have the experience and understand what solutions are practical. It is therefore our role to use technology, research and innovation to ensure we work together as partners with applied training helping to create a robust consistency in approach as well as providing a safe environment to train.

Training has become even more important with the welcome reduction in fires over recent decades. When I was first operational in the 1970s and 80s, we would attend 2,500 to 3,000 incidents annually from one fire station. Thankfully, improved fire awareness, education and fire safety measures have reduced call outs by approximately 80%. This means, however, that firefighters don't get the frontline experience that they did previously and it's therefore vital that realistic fire training can be provided to ensure that firefighters are competent and confident in how they approach the wide range of scenarios they are faced with. Covid-19 has further heightened the importance of training as some non-operational firefighters have had to retrain and return to the front line to replace colleagues who are shielding, in isolation or simply supporting and protecting family members.

Dräger's training is typically split into three areas:

- Training systems - these encompass mobile or fixed training facilities that enable state-of-the-art training so firefighters can experience real fires or extrication scenarios in a safe environment including compartment fire behaviour training (CFBT). At Dräger they include a vast portfolio of potential fire and rescue environments, including petrochemical plants, hospitals, schools, high-rise buildings, vehicles, aircraft and underground stations;
- Technical training - providing comprehensive know-how on the maintenance and repair of equipment – from mechanical and electronic components through to cleaning and disinfection;
- Fitness training – providing equipment to help ensure that firefighters are prepared for the physical challenges that come with the job and can be tested and monitored to improve their safety.

Training has come a long way from when it centred simply around exposure to hot temperatures often referred to as 'burn to learn'. It is now about much more than protecting a firefighter from becoming burnt, but rather teaching the science and behaviour of a fire and its contaminants, not only to support fire and rescue operations, but also to protect the firefighter's own health.

### **The Role of Technology**

Recent technologies coming into the market are being used to ensure that firefighters are given as much information as possible before entering an incident and that those on the outside are able to track and monitor a firefighter's health in real time.

The benefits of these technical advancements are obvious, which means training in their use is a relatively easy 'sell'. While Covid-19 is driving improvements in this regard, what is more difficult is

helping Fire Services to realise that technical training on the cleaning and hygiene processes related to kit is just as important to firefighter health.

Consistent and robust hygiene processes are also about technology. While manual cleaning of equipment is still generally the norm, there are many fire services that are moving towards mechanical washing systems, which provide complete consistency in washing temperatures, the amount of detergent used, speed and temperature of drying – which can all work together to disinfect contaminants and to protect the longevity of the kit.

Training and support around these systems encompasses the entire purchasing and use life cycle; from helping to build business cases for procurement and logistical installation support, to advice on the exact processes a firefighter should take when leaving a scene and returning to the station. Support also encompasses the ongoing maintenance of equipment and the quantity of stock required.

### **Future firefighter health**

Despite such advances, the UK is still behind other countries in terms of our hygiene and infection control practices. Netherlands and Sweden, for example, are two European countries leading the way in shifting the mindset and using mechanical washing equipment supported by improved logistics for managing and tracking PPE and RPE more widely. For these countries, stringent hygiene practices are commonplace and are not just about fighting cancer or the current pandemic, but also about protecting firefighters and support staff from more day-to-day illnesses such as flu, common colds, cold sores and other communicable illnesses.

Within Dräger, my role includes advising on these best-practice examples and new equipment technologies – working with our UK-based manufacturing facility and R&D departments to ensure they are designed with the firefighter in mind, and working with Fire Services, Government and other key stakeholders to help drive improvements to further protect our crews. Having manufactured advanced technology solutions for the Fire Services for more than 115 years, Dräger has the experience and technological know-how to support this necessary change in how we think about equipment, its cleaning, and ultimately how to apply technology and training to make our firefighters safer.

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