

**FKB**

Foreningen af  
Kommunale  
Beredskabschefer

## **Research on cancer risk among firefighters**

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# Agenda

- Focus in Denmark
- Evidens
- What can the fire brigades do?

# Cancer risk among firefighters

- International research shows indication of an increased risk of contracting especially 3 types of cancer among firefighters.
- International research indicates that impacts derived from the work of firefighters could have a carcinogenic effect.
- Examples of impacts:
  - Smoke derived from fires
    - Benzene, 1,4-butadien, formaldehyde etc.
  - Exhausts from diesel engines
  - Building materials, such as
    - Asbestos, quartz, etc.
  - Working night shifts
    - circadian rhythm disorder

# Cancer risk among firefighters

## IARC Classifications

International Agency for Research on Cancer (WHO)

<b>Group 1</b>	<b>Carcinogenic to humans</b>
<b>Group 2A</b>	<b>Probably carcinogenic to humans</b>
<b>Group 2B</b>	<b>Possibly carcinogenic to humans</b>
<b>Group 3</b>	<b>Not classifiable as to its carcinogenicity to humans</b>
<b>Group 4</b>	<b>Probably not carcinogenic to humans</b>

# Cancer risk among firefighters

- Particles with carcinogenic effects could be harmful for a long period after a fire.
- Many of the particles will remain on the surface of protective clothing and equipment. The impact after exposure will not only be through inhalation, but also through the skin and by lack of hygienic practices.
- It takes typically 20-50 years from time of exposure to a carcinogen until the cancer is diagnosed.
- The time span between carcinogen exposure and contracting cancer makes it difficult to make a link to impacts related to fire fighting. Often cancer develops not just from one exposure, but from many different impacts.

# Cancer risk among firefighters

- Today, the cause of 30 to 50% of all cancers are known. This means that the cause of about 50% are still unknown.
- It is estimated that 4-5% of all cancers are caused by exposures in the work environment.
- Studies indicate that there could be a potentially higher risk among firefighters (IARC group 2B) of contracting especially three types of cancer, namely:
  - Testicular cancer
  - Prostate cancer
  - Non-Hodgkin's Lymphoma

# Cancer risk among firefighters

- There is no reliable documentation whether this effect is due to the work of firefighting or other unknown elements in or outside the work environment.
- The traditional so-called lifestyle factors such as smoking and alcohol consumption are undocumented or not suspected to be the cause of these three types of cancer.

# In Denmark

- Act no. 422 Workers' Compensation (2005): All employers MUST have insurance
- The National Board of Industrial Injuries in Denmark regulation:
  - All doctors and dentists must report on suspension of work related injury or illness
  - Objective: a) Knowledge, b) Compensation
  - Recognition: “Impacts of work environments that make disease likely”
- Minister of Labour promised this year to start new research about the connection between firefighting and cancer

# In Denmark

- Giving the benefit of doubt: Make sure that firefighters are well protected to exposure
- Cooperation between the large fire services, the unions, FKB, Falck, and DEMMA
- **Good preventive behavior – avoid getting cancer being a firefighter**





**Good  
preventive  
behaviour**

Avoid getting cancer  
being a firefighter

# Good preventive behavior



- **Fire and cancer – what we know**
- **Good preventive behavior – how so?**
- **Before responding to a fire call**
- **During responding to a fire call**
- **After responding to a fire call**
- **Recommendations... As a workplace**
- **Recommendations... As management**
- **Recommendations... As a crew**



**Good  
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Avoid getting cancer  
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# Good preventive behavior

## Before a fire call

- Procedures and guidelines
- Culture
- Equipment

## During a fire call

- Clothing
- Equipment
- Behavior

## After a fire call

- Cleaning
- Extra equipment
- Operations

# Before responding to a fire call

- Make sure you understand the scope and guidelines for responding to a fire call
- Talk about how you will protect yourself and each other on-scene
- Make sure all new employees know how things work in your crew
- Have a talk with the management about the necessary scoping and equipment you need available in order to carry out the task at hand - in a safe and healthy environment
- Make sure you have clean and proper equipment ready before responding to a fire call
- Make sure you are mentally and physically ready to be included in the response unit

# During response to a fire call

- Use protective gear at all times – even while handling re-flashes
- Clean your fire equipment before going back to the station house
- Change into clean clothing before leaving the scene if your turnout gear is filthy
- Never get into your fire engine if your turnout gear is filthy
- Use filter masks and disposable gloves when you dispose of your fireman suit in a hot water soluble bag and clean the equipment
- Make an agreement in your unit that it is legit to tell each other in case you forget certain procedures or supplies
- Make sure that you keep a proper personal hygiene before eating on-scene
- Wash yourself off if you take a break – even if it is just a short break

# After responding to a fire call

- Hand over your filthy equipment for cleaning as soon as possible
- Do not wear your filthy turnout gear while sitting in any rooms where people either sleep, eat or stay in general
- Always use gloves and filter masks when you are in contact with filthy equipment – both fire engines, protective gear and clothing
- Take a shower as soon as possible after responding to an incident

# Take care for yourself

- As a firefighter you are at risk of getting cancer later in life, but you can do a lot to prevent getting cancer. In fact, having a preventive behavior before, during and after responding to a fire call is essential.

# FEU Web

- Pocket card
- The description on good preventive behavior
- The presentation

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