

Occupational Disease and Firefighting

The background of the slide is black, featuring several glowing, curved lines in shades of orange, yellow, and red that sweep across the lower half of the image, creating a sense of motion and heat.


by

**Graeme Geer, Secretary,
United Firefighters Union of
Australia**

West Australian Branch

**Alex Forrest is acknowledged
for this presentation**

The Death of a Firefighter due to
Occupational Disease is
No Different than a Death from an
On-scene Traumatic Fire Death



It is not One Fire that
Kills You

It is Hundreds of Fires that
Kill You

For a Firefighter
The Chance of Dying as a
Result of an Occupational
Disease is Much Greater than the
Chance of Dying at a Fire Scene

What happens in a fire?

Combustion and incomplete
combustion.

Known and unknown chemicals
produced.

How do we Protect Firefighters?

Personal Protective Clothing
& Breathing Apparatus.

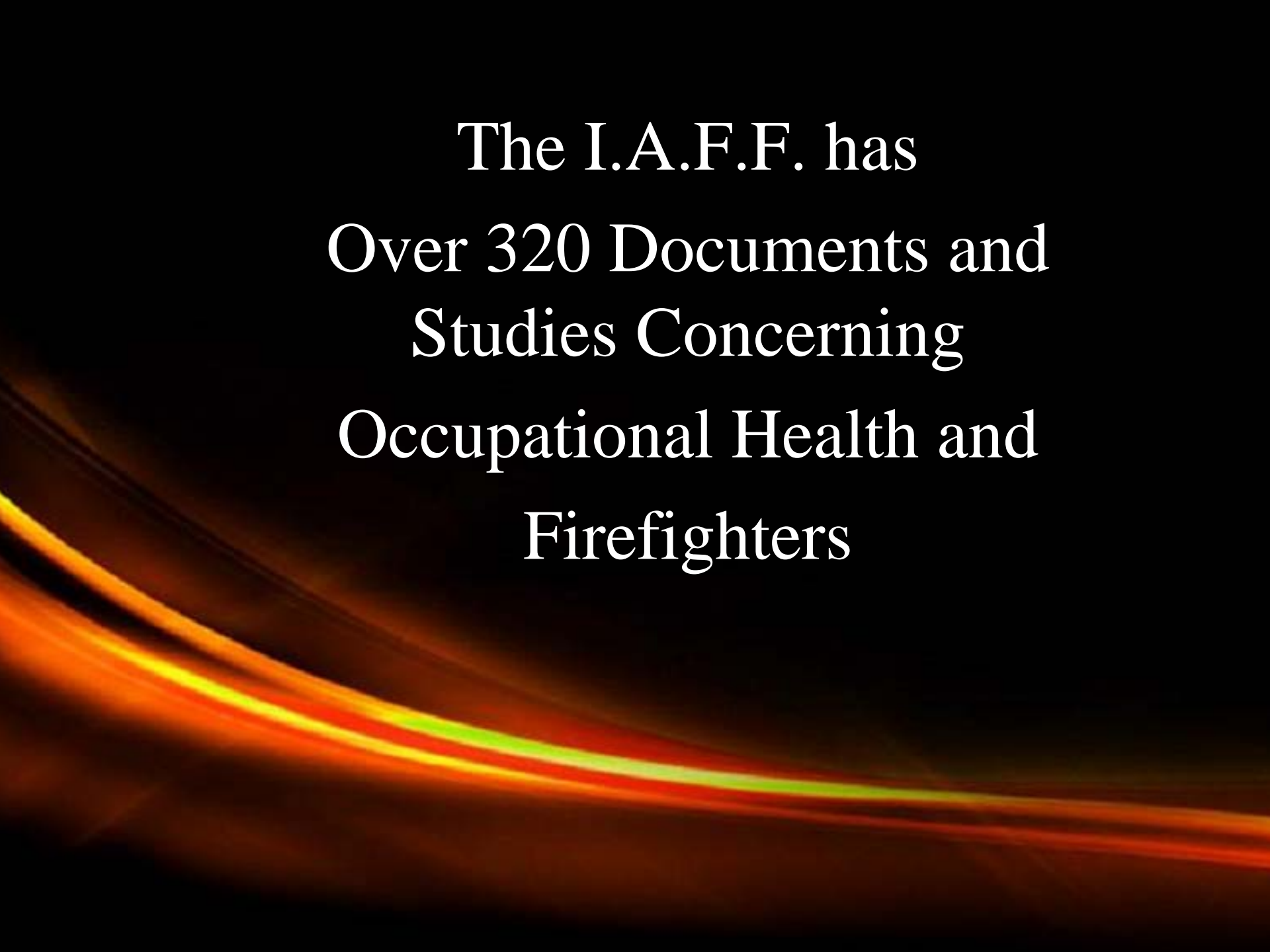


Does it protect Firefighters
Completely?

NO


THE SCIENCE





The I.A.F.F. has
Over 320 Documents and
Studies Concerning
Occupational Health and
Firefighters

You can be Provided with a
Bibliographical List
of Many of the Studies



S.M.R.

STANDARD MORTALITY RATE

Also called

STANDARD MORBIDITY RATE

SMR = 1.0 = General Population

$SMR = 2.0$

Twice the Rate of the General
Population

$$\text{SMR} = .80$$

80% of the Rate of the General Population

If a Study says that Firefighters have an SMR of 1.8 for being Diagnosed with Brain Cancer that means that Firefighters have a Rate 1.8 Times the Rate of the General Public

SMR of 2.0
is an
Extremely High Connection
as it is
Double the Risk Value

HEALTHY WORKER EFFECT

This is a Scientific Term that says
Firefighters, as a Group,
Start Out as a Healthier Sub-group
than the General Population

Firefighters, because of the
Physical Requirements and
Recruitment and Medical Exams,
are in the top 10% of
Physical Fitness of the
General Population

When they are hired Firefighters are
Anywhere between 20 and 30%
Less Susceptible to Cancer than the
General Population

If a Firefighter Never Fought a Fire
from the Date of Hire

Scientists Predict that their SMR Would be
.70 to .80,

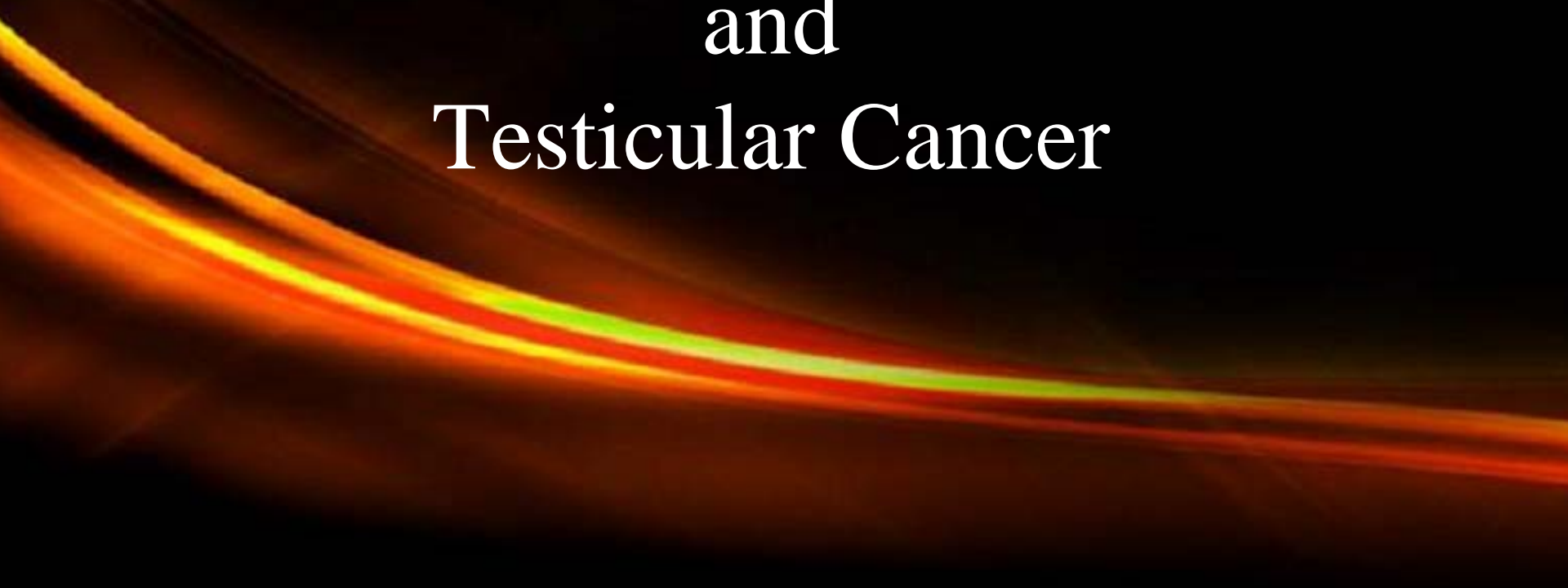
i.e. 20 to 30 percent less likely to be Diagnosed
with Cancer than the General Population

Within Five Years of Hire the Risk for Certain
Cancers Doubles for Firefighters

LEUKAEMIA

The first study linking
Cancer and Occupation was done
by London Surgeon,
Percival Potts, in 1775

The Potts Study found a Link
between the
Occupation of Chimney Sweep
and
Testicular Cancer



He found a link between

Cancer & Soot

PAH – Polycyclic Aromatic Hydrocarbons

Still Relevant Today in Every Fire



Mount Sinai Study of New York Fire Fighters (1998)

- Landrigan
- Golden
- Markowitz

Mount Sinai Study of New York Fire Fighters (1998)

Looked at New York Firefighters
over a Number of Decades

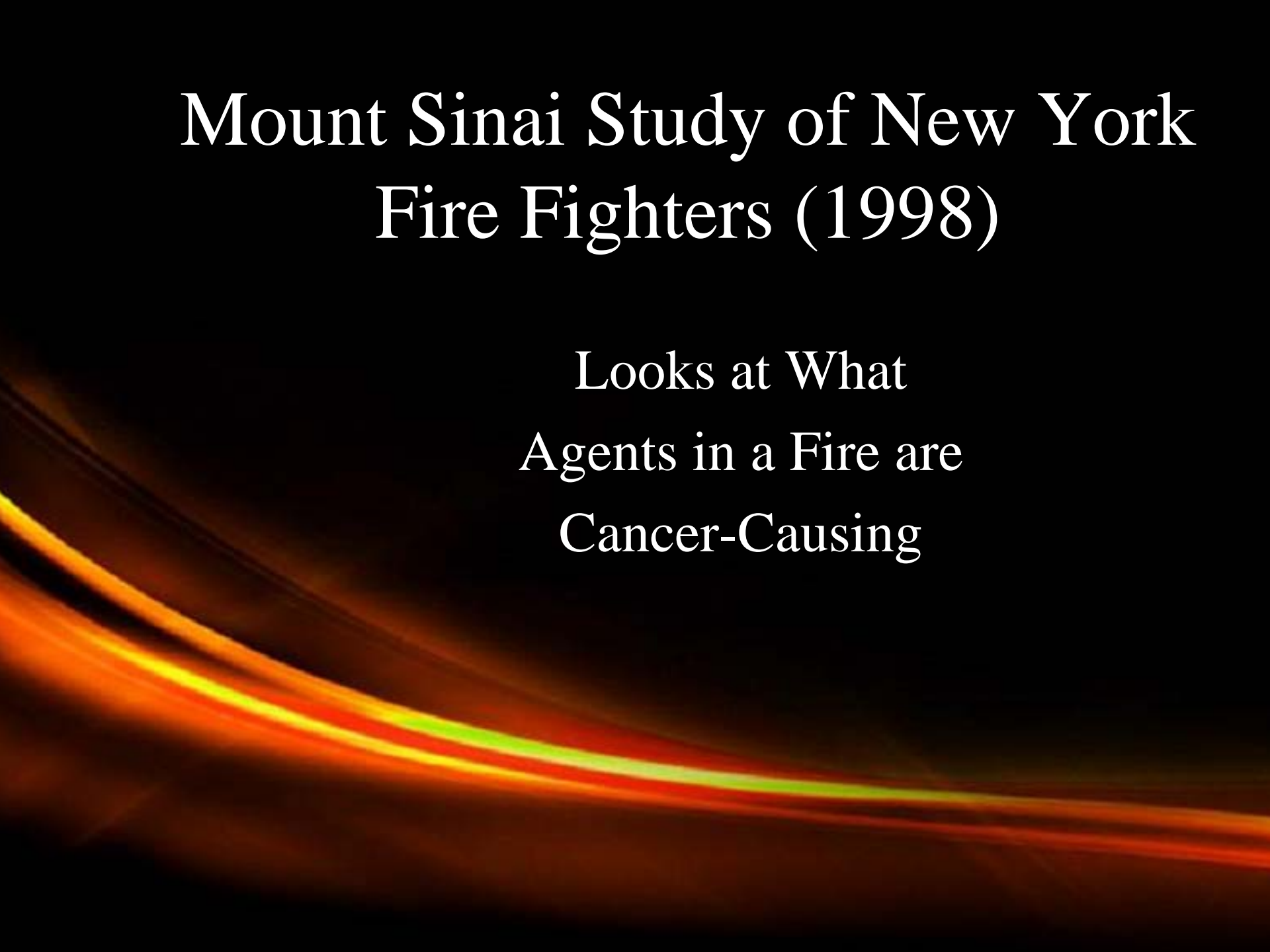
Mount Sinai Study of New York Fire Fighters (1998)

This is a Good Study to Start With
because it shows the connection
between Cancer and Firefighting

But Why?

Mount Sinai Study of New York Fire Fighters (1998)

Looks at What
Agents in a Fire are
Cancer-Causing

The background of the slide features several glowing, curved streaks of light in shades of orange, yellow, and red, set against a dark background. These streaks appear to be light trails or energy flows, curving from the bottom left towards the right side of the frame.

PLASTICS

The background features several glowing, curved lines in shades of orange, yellow, and red, set against a solid black background. The lines are most prominent in the lower half of the image, curving from the left towards the right.

There are 70,000 Synthetic
Chemicals in a Typical
Household



Exposure to Cancer Causing
Agents,
Over Time,
Makes a Person
More Susceptible to
Cancer



CHEMICALS

- More Plastics and Chemicals Today
- Building Design
- More Deadly Carcinogens

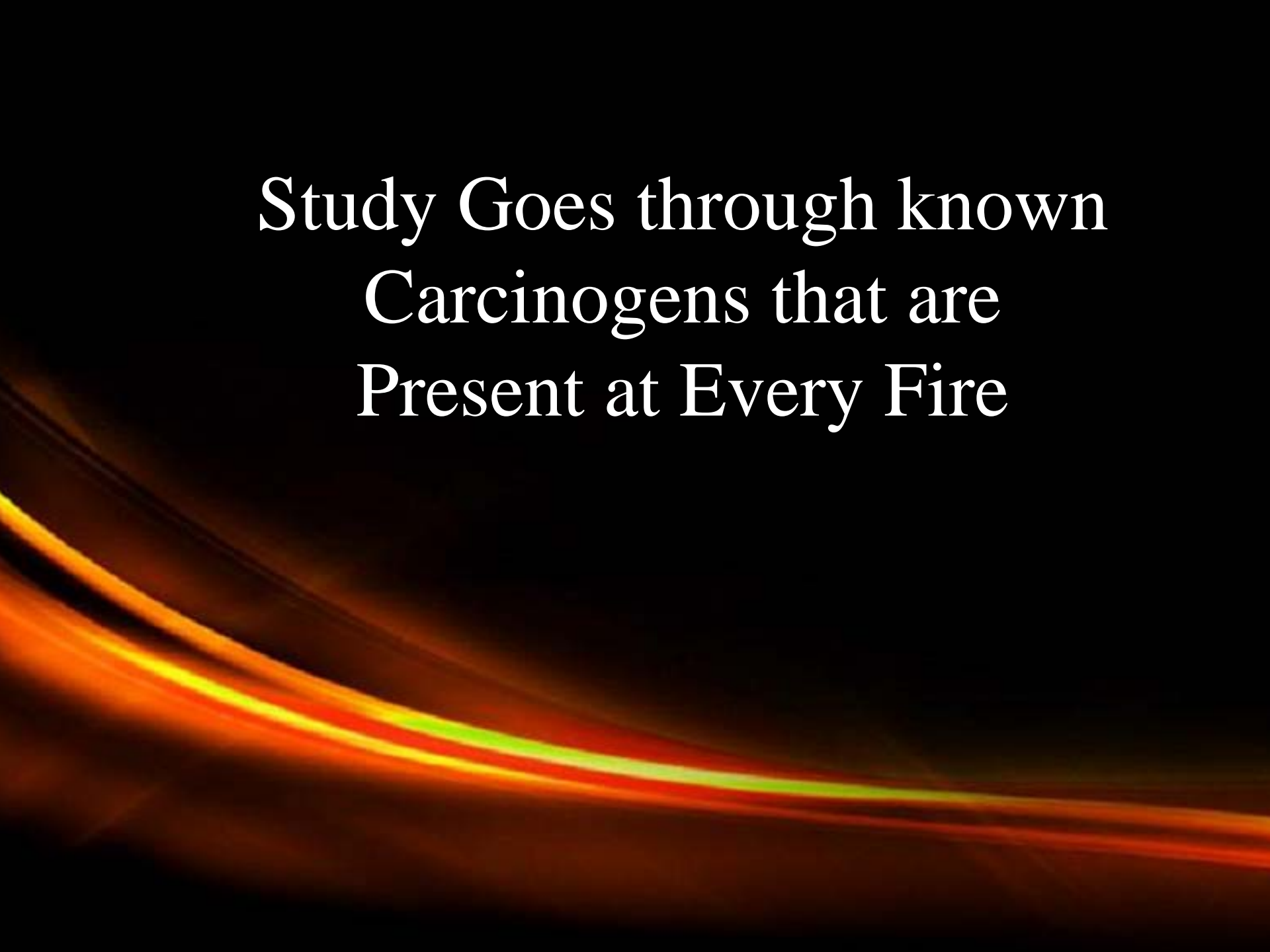
Synergetic Effect

The Combining of Chemicals



Toxicity Level

$$1 + 1 = 5$$



Study Goes through known
Carcinogens that are
Present at Every Fire

Carcinogens

- PAH
- Benzene
- Formaldehyde
- Benzodrine
- Arsenic
- Asbestos
- Vinyl Chloride
- Soot, tars and oils
- Radon
- Radium
- Arsenic Compounds
- Radium

And the List Goes On...

Cincinnati Ohio

LeMasters and Lockey (2007)



Cincinnati Ohio

One of the Largest Firefighter Cancer
Studies ever done

Cincinnati Ohio

110,000 Full Time Firefighters
From 32 Studies

Cincinnati Ohio

“There is a Direct Correlation between Chemical Exposures Fire Fighters Encounter on their job and the Increased Risk of Cancer”

Cincinnati Ohio

Absorbed and Inhaled

The background of the slide is black, featuring several glowing, curved lines in shades of orange, yellow, and red that sweep across the bottom half of the image.

Manitoba – The First Province in Canada to have Presumptive Legislation

- Very Cautious
- Covered the Five Cancers with the Strongest Connection to Firefighting

Manitoba Presumptive Legislation


- Brain
- Bladder
- Kidney
- Non-Hodgkin's Lymphoma
- Leukaemia

- Went Across the Country
 - Seven Provinces
- 

Latency Periods

- Leukaemia 5 Years
- Brain Cancer 10 Years
- Testicular Cancer 10 Years
- Colon Cancer 15 Years
- Rectal Cancer 15 Years

A Death is a Death.
Compensation should be no
Different if you Die as a Result
of One Fire or Three Hundred
Fires



Cancers Covered

- Brain
- Bladder
- Colon
- Rectal
- Non-Hodgkin's
Lymphoma
- Leukaemia
- Lung
- Urethra
- Kidney
- Esophageal
- Testicular

Today

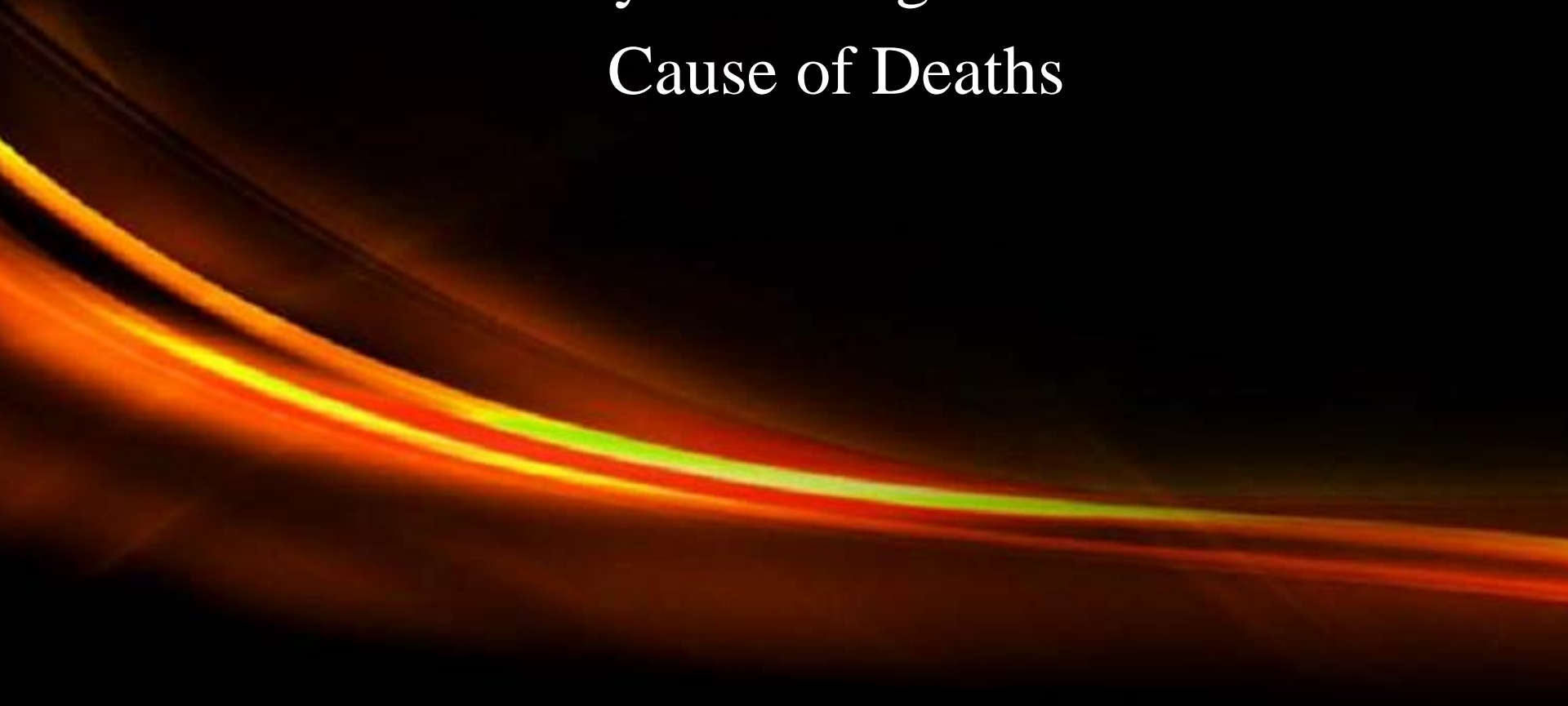
Seven out of the Ten Canadian
Provinces have
Presumptive Legislation

SWEDEN

- 1994 Study
- Funded by Swedish Workers Environment Fund
- Tornling
- Gustavsson
- Hoystedt

Paris Study (1995)

The First Study to Look at
Mortality of Firefighters and the
Cause of Deaths



Toronto Study (1993)

- Watershed:
 - First Study in Canada with such a Large Sample Size
- Study of all Toronto Firefighters and Surrounding Fire Departments from 1950 to 1989

Other Studies


- Philadelphia
- California
- Boston
- Ohio

CONCLUSION

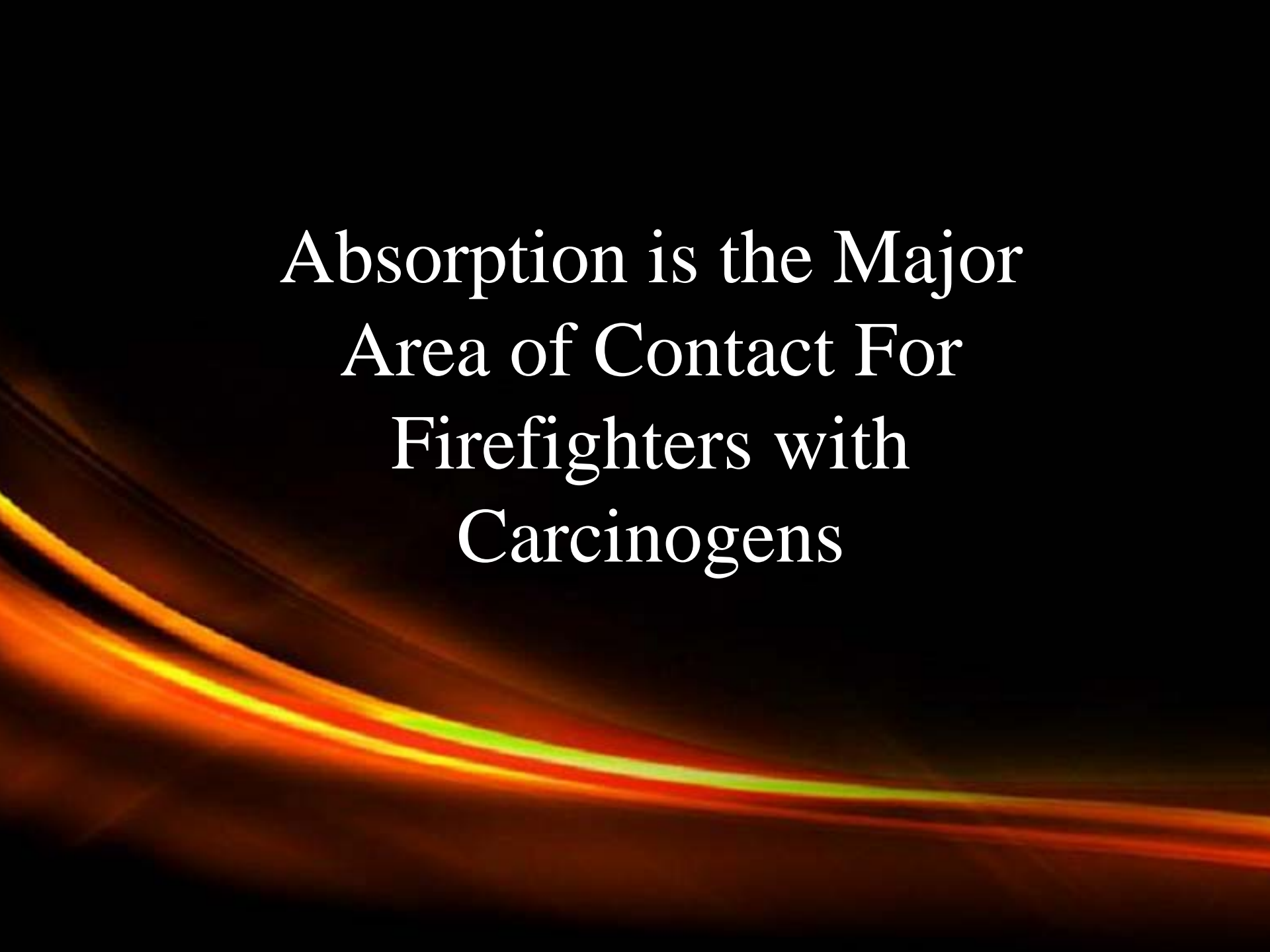
The background features a series of glowing, curved lines in shades of orange, yellow, and red, set against a solid black background. The lines are most prominent in the lower half of the image, curving from the left towards the right.

Plastics are becoming More Prevalent Every Year

- Building Designs
- Household Products



Protective Equipment is
Not Keeping Up with
Increased Toxicity Level
of Firefighters



Absorption is the Major
Area of Contact For
Firefighters with
Carcinogens

Cancer Rates Will Rise

Firefighters will Die of
Occupational Cancer

MY EXPERIENCE

MY PASSION

**Thank you for the Invitation to
speak to you on this Important
Issue.**

**Maybe one of the Most Important
Issues facing Firefighters Today**



AUSTRALIA

On the 3rd November 2011

the Australian House of Representatives
unanimously agreed to the

Safety, Rehabilitation and Compensation
Amendment

(Fair Protection for Firefighters) Bill 2011.

It is now referred to the Senate for ratification.

What does this mean?

- Basically, the onus of proof is not required by the Firefighter.

If a Firefighter in the ACT or Aviation Fire Services suffers from the recognised cancers they are to be covered by Workers' Compensation.

Cancers

- Multiple Myeloma
 - Primary-Site Prostate
 - Non-Hodgkin's Lymphoma
 - Colorectal
 - Oesophageal
 - Brain
- Kidney
Urethra
Leukaemia
Breast
Testicular
Bladder

To raise your awareness –
If a Firefighter comes to you with
cancer, there is a very strong
likelihood it is work-related and
should be treated as Workers'
Compensation.

- Thankyou

The rate at which cancer occurs in firefighters compared to the general population, from Noble DVD

10 to 19 years of service as a firefighter

Brain:	3.5 times more likely
Leukaemia - Lymph:	3 times more likely
Non-Hodgkin's:	3 times more likely
Bladder:	3 times more likely
Kidney:	4 times more likely
Prostate:	2 times more likely
Testicular:	2.5 times more likely
Large Intestine:	2 times more likely
Liver:	2 times more likely
Skin:	3 times more likely
Multiple Myeloma:	2.5 times more likely rising to 10 times after 30 years of service

