

# Asbestos in the 21<sup>st</sup> Century

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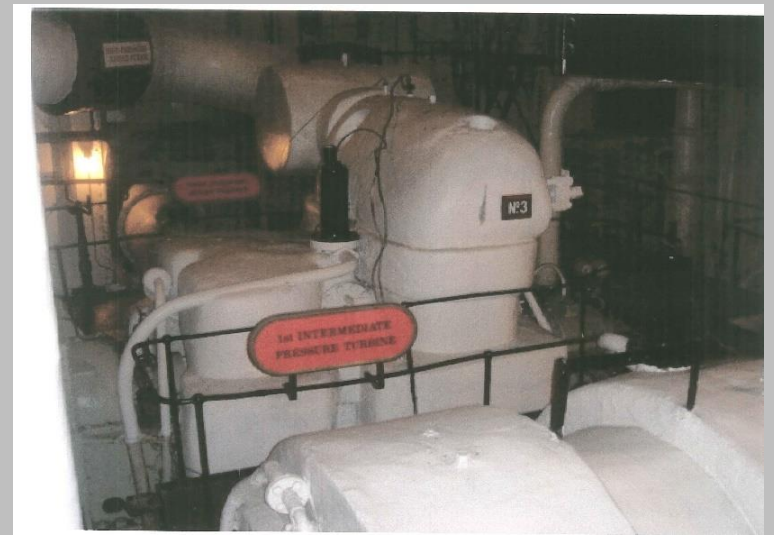
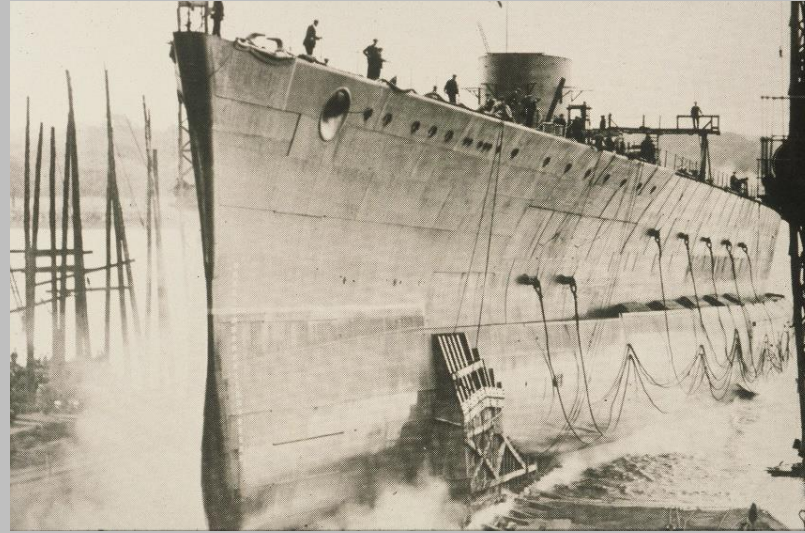
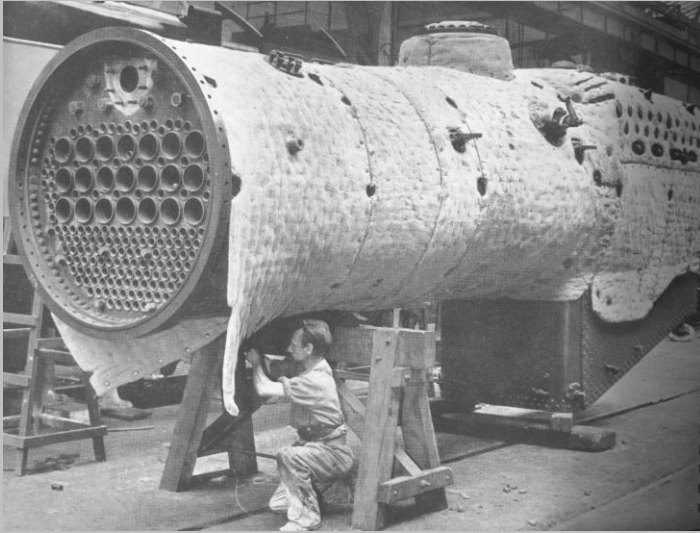
- Founded in 1978
- First private Asbestos Test House in Scotland
- Research, Consultancy, Measurement, Training, Legal Services (Expert Witness)
- Over 150 000 asbestos contracts in 44 yrs UK,US, Canada, Europe, Africa, India, Japan, Falkland, Turkey, Chile.

# Asbestos

- To make informed decisions we need to know the difference between:
- **PERCEIVED** risk and **REAL** risk.

## Asbestos usage (UK)

- 17 million tonnes imported (from 1871)



## The post war problem

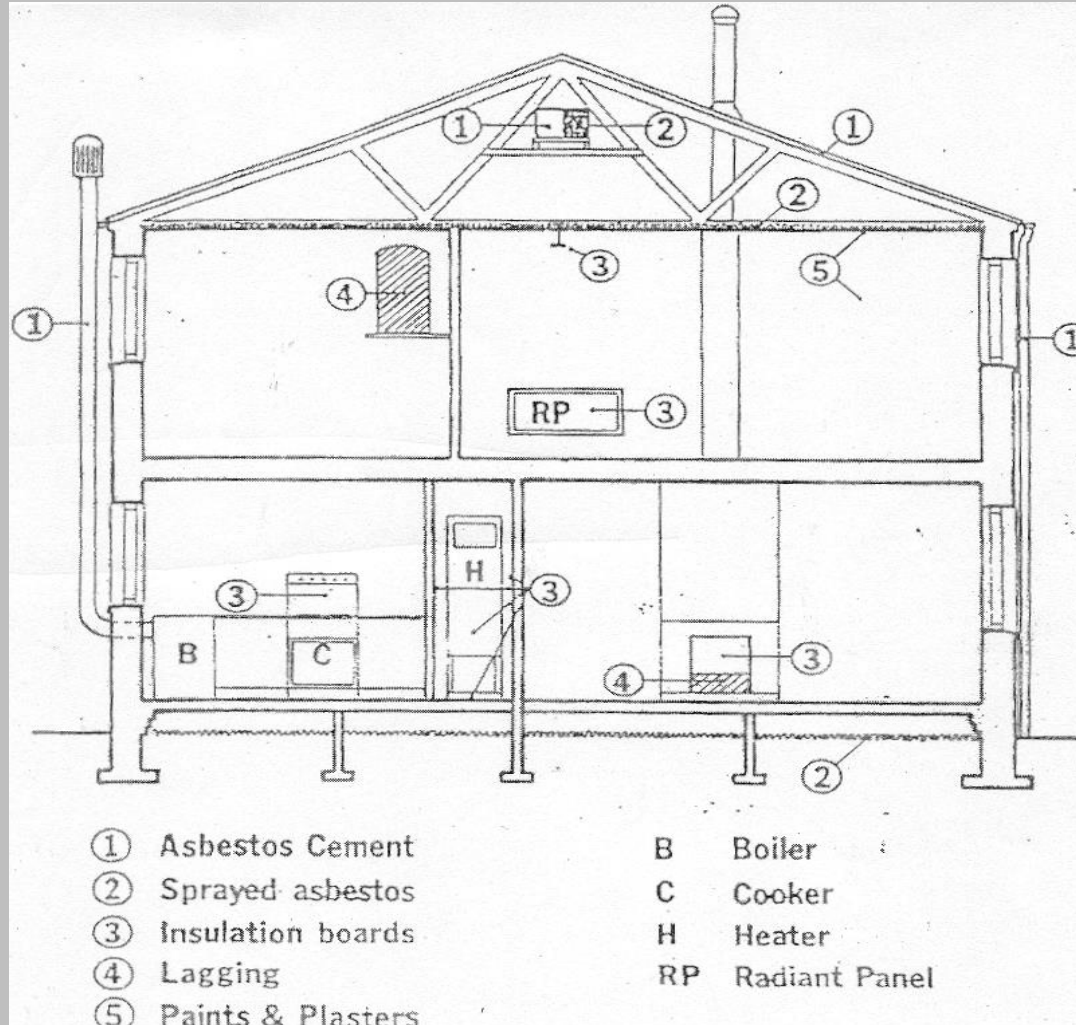
- Immediate post war years there was a real shortage of stone, brick and wood.
- Also, the country was bankrupt.
- How do you quickly and cheaply re-house tens of thousands of displaced people?



*Attractive home safeguarded with modern asbestos siding,  
fireproof, rotproof, and termite-proof*

dry and 4 tons wet, compared with 10 tons of lead, 11 tons of...

# COMMON LOCATIONS IN PUBLIC SECTOR HOUSING





## Asbestos usage (UK)

- 17 million tonnes imported (from 1871)
- Hundreds of uses.
- 4 million tonnes used in construction industry.
- 9.4 million properties
- Particular use in **public buildings** especially 50s,60s,70s (best quality, lowest price).

## Who is most affected ?

- Not such a big problem in **privately** built houses/buildings
- A significant problem in **publicly** funded housing stock/buildings.
- Therefore, a significant problem for **L.A., H.A., NHS MOD, Educ. Establishments in particular** – especially when built in 1950's, 60's, and 70's.

## Exposure to Asbestos

- Most of us were born in a hospital
- Lots of us brought up in Social Housing
- All of us went to school
- A lot of us went to college or university
- Lots of us use sport centres, libraries, hospitals, clinics
- All of us are exposed to vehicles

## The Result (Prof Seaton, Aberdeen Univ.)

- We are surrounded by asbestos products and have been breathing them in from birth.
- Early postmortem studies showed that more than **60%** of people in the UK have asbestos fibres in their lungs at point of death (**100%** in urban environments)  
(over 36 000 000 people).
- It was nothing to do with cause of death.

# Asbestos Diseases

**INHALATION** OF ASBESTOS FIBRES CAN LEAD TO:

- ASBESTOSIS                      MASSIVE OVER EXPOSURE
- LUNG CANCER
- MESOTHELIOMA              “LOW LEVEL”

LATENT PERIOD BETWEEN 10 – 40 yrs, up to 60 yrs  
for mesothelioma

typically 25/35 for non meso

# Asbestos: how dangerous?

## HSE PROJECTIONS FOR ENGLAND & WALES

TYPES OF DEATH	NUMBERS
▪ HEART DISEASE	165 000
▪ CANCER	140 000
▪ RESPIRATORY DISEASE	56 000
▪ HOME ACCIDENTS	6 000
▪ SUICIDES	5 000
▪ ROAD ACCIDENTS	1 800
▪ WORK ACCIDENTS	144
▪ ASBESTOS DEATHS (pre 1999)	2 000

## One Fibre Kills ?

- We have lived in a scientific age for over 400 years (Galileo 1564)
- Test the theoretical prediction against the experimental result
- **Theory** 1 200 000 asbestos deaths p.a.
- **Experimental** result 2 000 p.a.
- One of them must be wrong.
- The postmortem results must be correct
- Therefore, the theory is wrong

## Recent Medical Research

- Recent medical studies have involved looking at lung tissue from lungs where the person has died of mesothelioma.
- Electron microscopy studies have shown total fibre concentrations in excess of **102 million fibres** in the diseased lung.



## Push Back

- Concept of exposure thresholds does not sit well with many medics.
- And particularly the popular press (and asbestos removal companies!)
- Often read the phrase “There is no safe level of asbestos”

## Modern Concepts

- 2001 HSE published “Reducing Risks, protecting people: the HSE decision making process.”
- Modern concepts include individual risks, societal risks and societal concerns.
- Introduces Tolerability of Risk (TOR).
- Key measure is **the annual risk of death per million.**

## Modern Concepts

- HSE opinion is individual risk of death of **one in a million per annum** for both workers and the public should be used as a guideline for the boundary between broadly acceptable and tolerable risks.
- Risk at this level, or below, can be regarded as **insignificant/negligible**.

## The Context

- HSE figures indicate an annual background risk of death for the entire population and from all sources as 1 in 97 which translates as 10 309 per million.
- The HSE figure of 1 in a million is, therefore, very low indeed. My opinion.... far too harsh a test.

## Hodgson and Darnton 2000

- Based at the Epidemiology and Medical Statistics Unit of the HSE.
- Analysed death rates and exposure levels for a large number of cumulative exposures.
- Proven that there were levels of cumulative exposure that could be deemed insignificant.

## One fibre kills ?

- Not only is there no scientific evidence to suggest this is true, there is now a large amount of evidence to show it is not true.
- Single fibre kills – **I think not!!!!!!**

## Real Risk

- No one is suggesting that asbestos is not dangerous.
- What this section has done is to put it into proper context

# Asbestos Related Death Rates

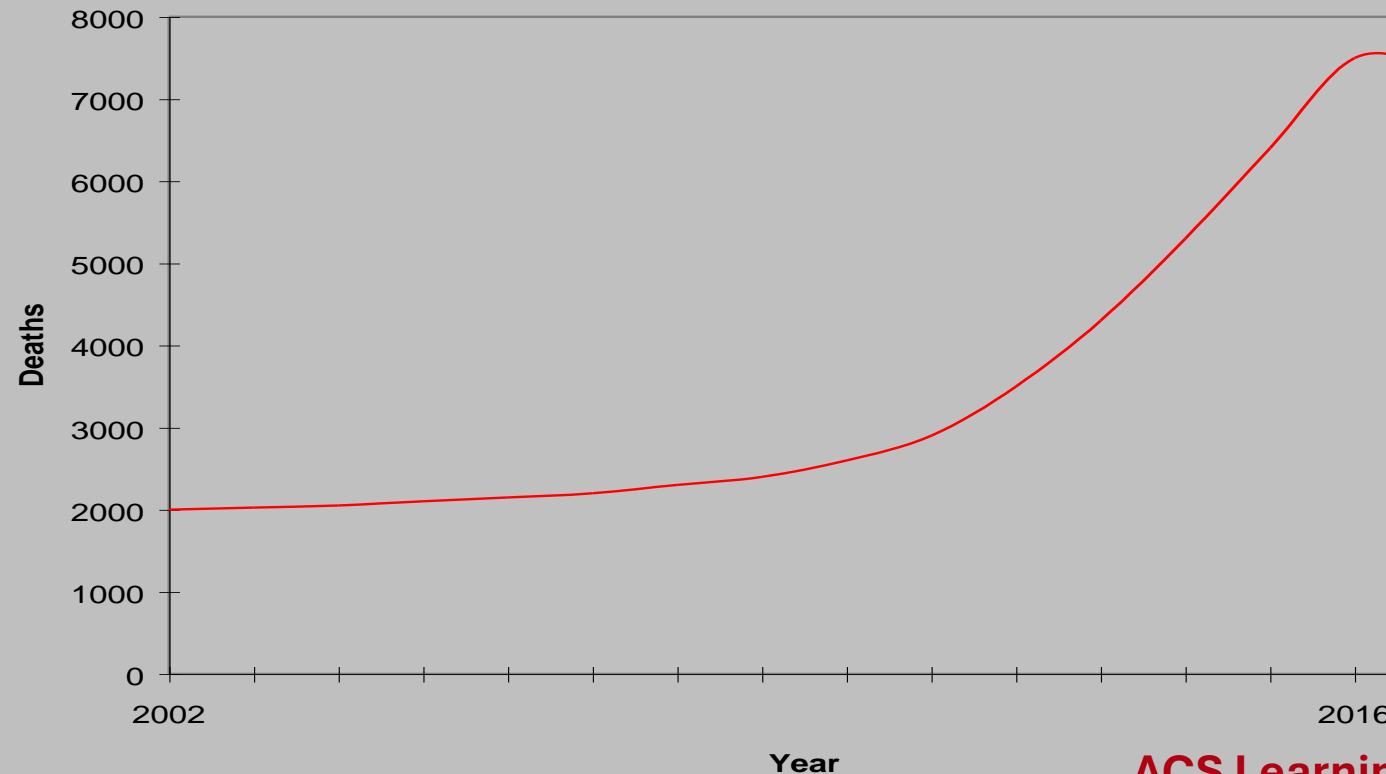
- Death rate was relatively constant at 2000 per annum for many years.
- In the past few years, the death rate has climbed from 2000 to 3000 to over 5000 and is now the biggest single industrial killer the UK has ever seen.
- Prof Peto's prediction.



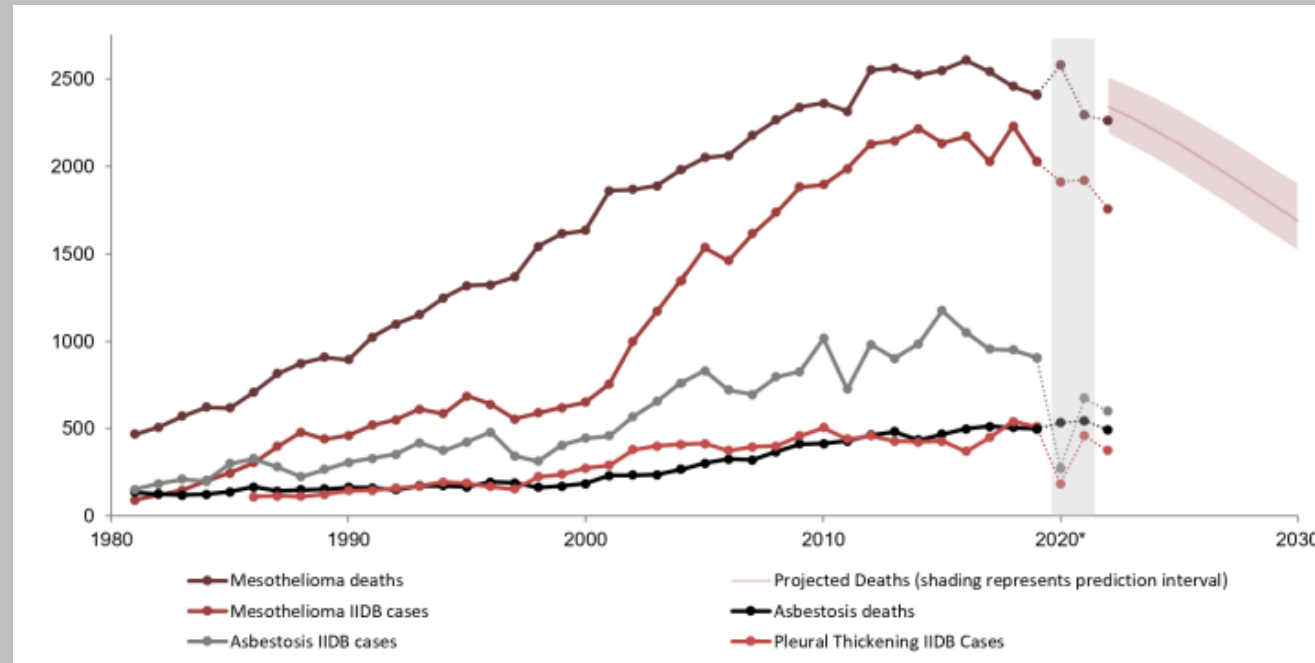
# The PETO prediction (1995)

THE NUMBER OF ASBESTOS DEATHS WILL RAPIDLY INCREASE OVER THE NEXT DECADE.

PEAK COULD BE AS HIGH AS 7000 P.A. (UP FROM 2000 P.A.)



## Mesothelioma, asbestosis, and pleural thickening: time trends in annual deaths and Industrial Injuries Disablement Benefit (IIDB) cases.

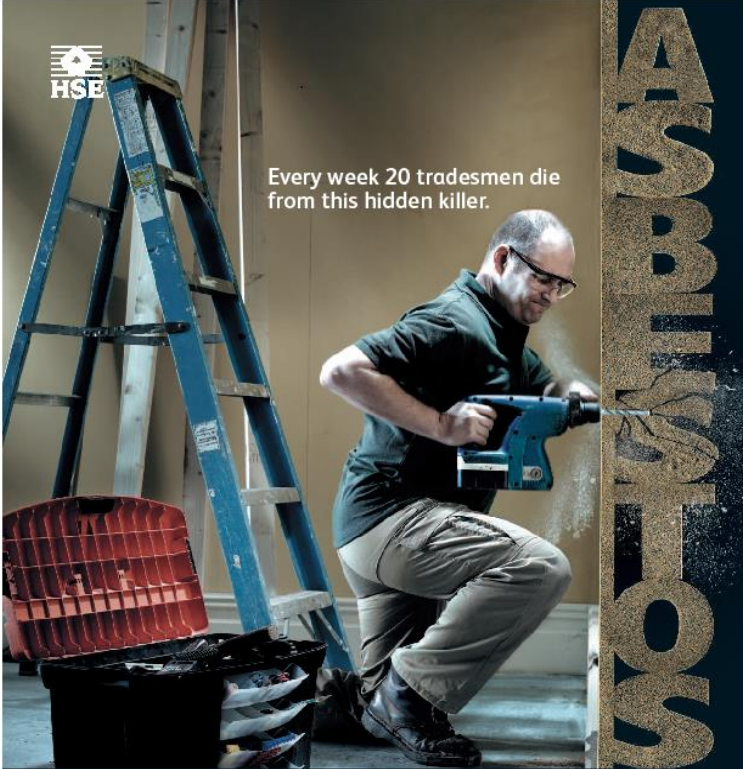


UKATA - Asbestos Health Statistics /  
updated 31/07/2024 (v7)

## Who are these people?

- The additional deaths occur **NOT** in the conventional group e.g. heavy industry.
- Deaths occur primarily in **tradesman** e.g. **electricians, plumbers, carpenters.**
- Largest single group is “**tradesmen working for L.A.’s**”
- We need new asbestos regulations to protect these people.

# HSE Asbestos Campaign 2008 on



The poster features a man in a dark shirt and khaki pants using a blue power drill on a wall. A blue step ladder is to his left, and a red bucket is on the floor. The word 'ASBESTOS' is written vertically in large, textured letters on the right side of the image. The HSE logo is in the top left corner.

HSE

Every week 20 tradesmen die from this hidden killer.

Any building built or refurbished before the year 2000 could contain asbestos, which is one of the most lethal dangers in the workplace.

Every year there are still 4,000 deaths from asbestos related diseases. You could be working where asbestos is present right now.

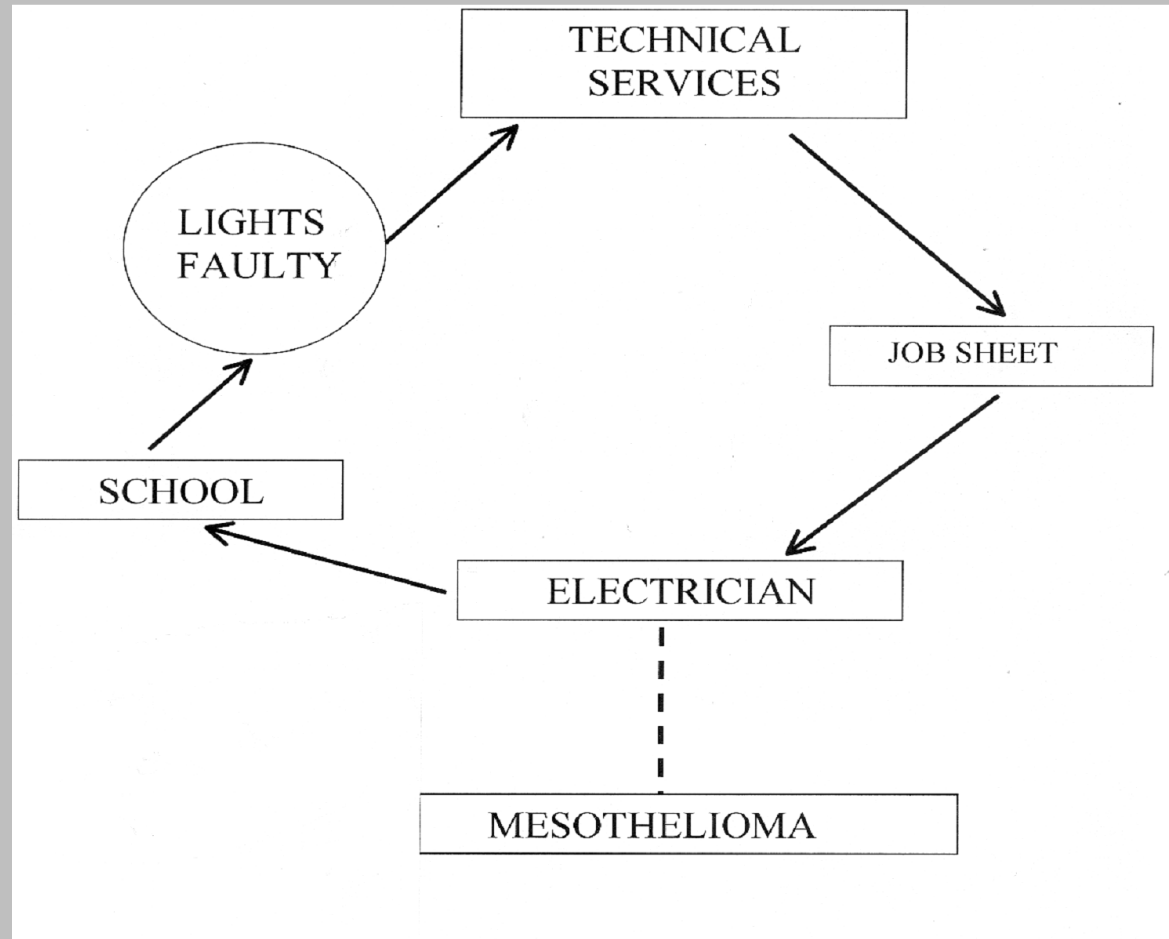
Don't you owe it to your workmates, your family and yourself to find out more?

Call **0845 345 0055** now for your FREE Asbestos Information Pack.

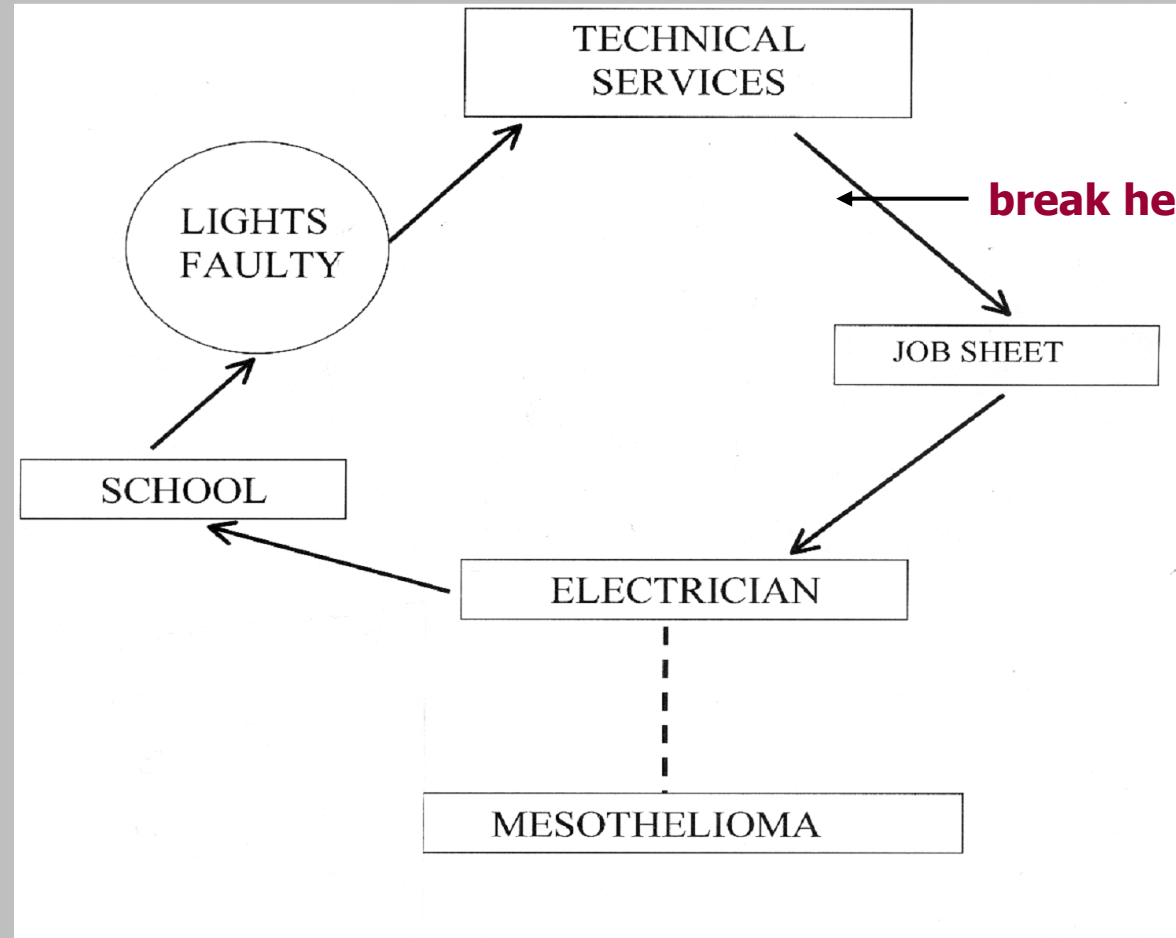
Health and Safety Executive [www.hse.gov.uk/asbestos](http://www.hse.gov.uk/asbestos)

Don't chance it  
**CHANGE IT**

# Roger's Mesothelioma Cycle



# Roger's Mesothelioma Cycle



# The Asbestos Regulations Nov 2002 (no difference in substance in CAR 2012)

- Exactly same as old Regulations (1987), except for Regulation 4 - effective May 2004.
- Reg. 4 : duty to **manage** asbestos in premises.

# Find me:



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