Stop. Make a Change.

Toolbox Talk: Dust & Respiratory Health

Objective

The purpose of today's discussion is to ensure everyone understands the risks associated with dust and how harmful it can be to you and others around you if not properly controlled or safety procedures are not followed.

Key Message

By understanding dust, how it is created, the methods to reduce and control dust, and how by following proper safety procedures, workers can reduce the future risks of respiratory disease and cancers to themselves and others.

Dust

Dust can be incredibly harmful to your health. Whilst we live with dust in every aspect of our life, on or around construction sites breathing in certain types of dust can lead to serious, long-term health issues including skin problems, nose irritation, asthma, and in rare cases, nasal cancer. Using power tools on construction sites results in dust in the air, which raises the health risks. Fine dust is the greatest danger. When fine dust particles are breathed in, they may remain deep within the lungs. They can lodge in lung tissue and cause inflammation, scarring and some more serious silica dust - related diseases, which usually take many years, if not decades, to develop.

HSE reports:

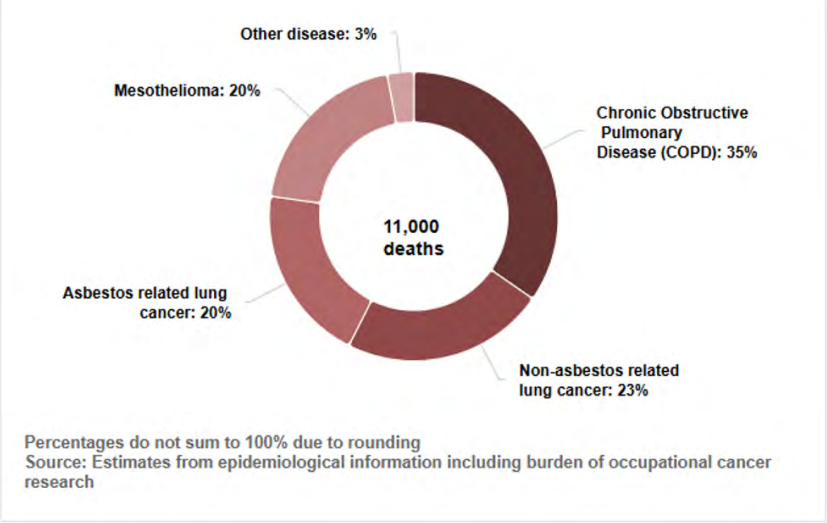
11,000

Lung disease deaths each year estimated to be linked to past exposures at work

1.9 million

Workers suffering from work-related ill health (new or long-standing) in 2024/25 (LFS)

Occupational lung diseases contributing to estimated annual current deaths



Percentages do not sum to 100% due to rounding
Source: Estimates from epidemiological information including burden of occupational cancer research

Sources of construction dust

Construction dust is generated from various materials and activities on construction sites. The main sources include:

Silica Dust, found in materials like sand, sandstone and granite. It is also present in concrete and mortar during cutting, drilling and grinding

Non-Silica Dust, commonly found in material such as gypsum, cement, limestone, marble and dolomite, and is mixed with silica dust when cutting bricks

Wood Dust, produced from softwood and hardwood, as well as wood-based products like MDF and chipboard.

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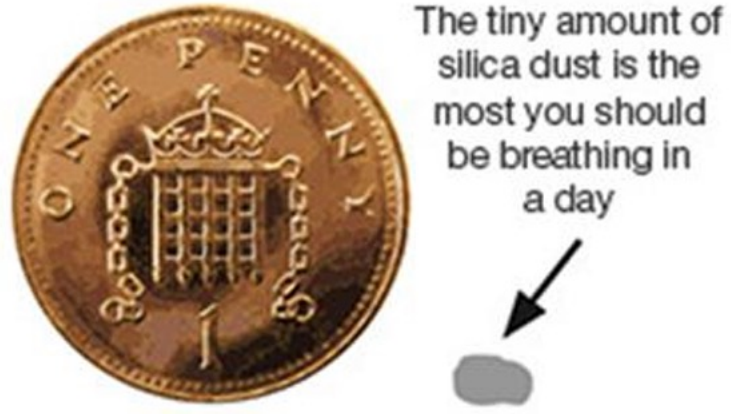
Silica Dust (RCS) and your Health



Silica Dust poses a risk to health when RCS is:

- **Inhaled (Inhalation)**
- **Swallowed (Ingestion)**
- **Absorbed through the skin (Absorption)**

Inhalation – most dust is inhaled. When RCS particles are breathed in, they may remain deep within the lungs, lodged in lung tissue causing inflammation, scarring and some more serious silica dust - related diseases. These diseases usually take many years, if not decades, to develop.

It is well known that silica dust causes respiratory, cardiovascular, autoimmune, cancer dangers and neurological problems, as well as other health issues that can affect people's long-term well-being. For example:

- Over 100 Interstitial Lung diseases
- Silicosis
- Lung, Throat Cancer
- Chronic kidney disease
- Chronic obstructive pulmonary disease (COPD)
- Scleroderma or Rheumatoid Arthritis- diseases of the connective tissue
- There is also growing evidence suggesting a relationship between occupational silica exposure and heart disease .

A person may show signs of more than one of these diseases.

Precautions

Wherever possible, work should be planned in a way that gets rid of harmful dust and fumes completely.

If that's not an option, then proper controls must be in place to stop anyone from breathing them in.

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Some tools and equipment come with built-in dust extraction or collection systems—if those are available, they should always be used.

Workers should always wear the correct respiratory protective equipment (RPE) to keep themselves safe. They should be face fit tested to ensure the mask forms an effective seal against the wearer's face and provides the intended protection. FFP2 masks filter at least 94% of particles, while FFP3 masks offer strong respiratory protection, filtering at least 99% of airborne particles.

It's also important to think about how the work might be affecting others nearby, not just the person doing the job.

Do's and Don't's

Do

- Use dust extraction or water suppression when cutting materials to help reduce dust in the air.
- Ensure you are face fit tested when using face fitted masks (like FFP3/FFP2)
- Always wear the dust mask provided - FFP3 masks offer strong protection.
- Keep the work area clean and tidy to help stop dust from building up.
- Take care of personal protective equipment (PPE) so it stays effective.
- Be aware of how much dust the job is creating and make sure the right control measures are in place.

Don't

- Don't use brushes to sweep up dust.
- Never cut materials without proper dust control in place.
- Don't assume dust won't affect you - long-term exposure can cause serious health issues.
- Don't cut indoors unless there is proper extraction and ventilation to manage the dust.

Conversation starters

- Do you know what health risks you face on this job, and how you can control them?
- Do you consider how health risks might impact you in later life?
- How might you persuade a colleague to take the risks and necessary controls more seriously?
- Do you know what RPE to wear and when?

Key Message

By understanding dust, how it is created, the methods to reduce and control dust, and how by following proper safety procedures, workers can reduce the future risks of respiratory disease and cancers to themselves and others.

Other Resources

Crossrail – Learning Legacy

This film highlights the fact that the unseen health impact of day-to-day dust exposure can, in the long run, be much more serious and debilitating than the more obvious health and safety failures. It explores how easy it is to dismiss them at the time and how, by the time the impact is felt it's too late to do anything about it.

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The short film is shown below and is accompanied by discussion notes that will help the viewer understand the risk.

- Health and Safety Impact Video - Jenny's Story - Crossrail Learning Legacy

HSE Information sheets

- Construction Dust
- Construction Dust – Specific Tasks
- Fit testing basics - HSE

British Occupational Hygiene Society (BOHS)

- Breath Freely Campaign