

ECC Safety Tip

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Construction Dust Inhalation and Exposure Safety



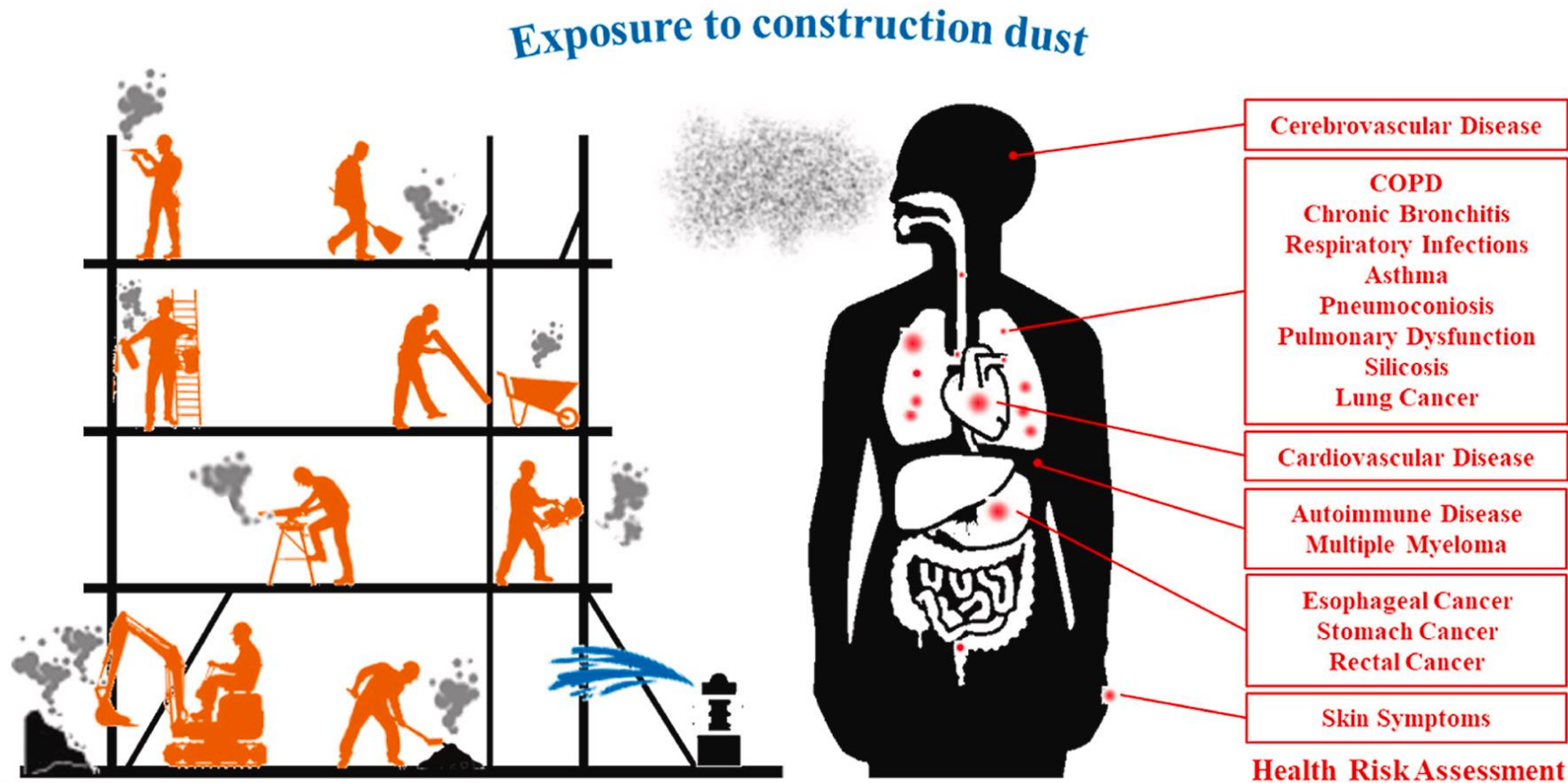
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Be mindful of dust in construction

Construction dust can cause serious health damage and can lead to serious diseases, including silicosis, a progressive lung disease marked by scarring and thickening of the lung tissue; lung cancer; chronic obstructive pulmonary disease (COPD); and cardiovascular disease.



Common construction dust

- Construction workers can be exposed to silica dust from many sources. For example, concrete workers can be exposed to silica dust during mixing, sawing, jackhammering, chipping, grinding, and cleaning operations. Masons can be exposed when cutting concrete blocks and bricks, mixing mortar, and tuckpointing. Tile workers can be exposed when cutting ceramic tiles or stone. Highway, street, and bridge construction workers can be exposed during abrasive blasting, drilling, milling, breaking, and cutting concrete. Site preparation workers can be exposed during earthmoving, excavation and trenching, and demolition, and drywall workers can be exposed when cutting drywall and sanding joints.
- Wood dust – created when working on softwood, hardwood and wood-based products like MDF and plywood.
- Lower toxicity dusts – created when working on materials containing very little or no silica. The most common include gypsum (e.g. in plasterboard), limestone, marble and dolomite.



Reduce your risk

Methods for controlling and reducing dust exposure include:

- Water – water damps down dust clouds. However, it needs to be used correctly. This means enough water supplied at the right levels for the whole time that the work is being done. Just wetting the material beforehand does not work.
- On-tool extraction – removes dust as it is being produced. It is a type of local exhaust ventilation (LEV) system that fits directly onto the tool.
- Respiratory protective equipment
 - A reusable half-mask, negative-pressure respirator, consists of a filter-holding unit called the facepiece or mask, fabricated from molded plastic or rubber. The mask contains intake and exhaust valves and is attached to straps that ensure a tight fit to the wearer's face.
 - FFRs, commonly called dust masks are another type of negative pressure air purifying respirator. FFRs have a lighter design than half-mask respirators. The entire mask is fabricated from filter material that covers the mouth and nose.
 - Powered air-purifying respirators (PAPRs) use a fan to draw air through the filter to the user. They are easier to breathe through than negative pressure air purifying respirators; however, they need a fully charged battery to work properly.

Resources and references

- Exposure to construction dust and health impacts – A review: <https://www.sciencedirect.com/science/article/abs/pii/S004565352203483X>
- Construction Dust HSE, elcosh: <https://www.elcosh.org/document/3689/d001228/Construction+Dust.html#:~:text=Dust%20can%20build%20up%20in,permanent%20disability%20and%20early%20death>
- A guide to respirators used for dust in construction (NIOSH): <https://blogs.cdc.gov/niosh-science-blog/2020/08/17/respirators-construction/>
- OSHA respirable crystalline silica standard: <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1153>

