Silicosis hits thousands of Australian workers

John Mackay 28 April 2023

Some 10 years after the first reports of stonemasons developing lung disease during kitchen benchtop manufacturing, workers in Australia are suffering an epidemic of diseases from exposure to silica dust.

From the estimated half a million workers who could be exposed to silica dust in the workplace, approximately 100,000 could develop silicosis, with an additional 10,000 developing lung cancer. The current number of deaths is unclear. A study from 2012 estimated that silicosis contributes to 10,400 deaths per year.

Unlike many occupational lung diseases that see illness develop later in life, with silica exposure from the "engineered stone" used for kitchen benchtops, those workers succumbing to silicosis are often in their 20s and 30s.

Unlike exposure to asbestos which may take many years to present, "acute" silicosis can occur within three years of exposure. Accelerated and chronic silicosis is slower but still rapid, occurring before or following 10 years of exposure, respectively. While it remains a preventable disease by avoiding inhaling the dust, there are currently no treatments for silicosis, other than a lung transplant.

Silica is a natural product in sandstone. When aerosolised from cutting or drilling, this can then be inhaled to cause lung disease. Silica comes in different forms, however more recently engineered stone has high concentrations of silica (>90 percent) which can lead to greater exposure and more rapid onset of lung diseases. Natural alternatives can still be harmful, but the silica content is significantly lower (2–30 percent).

Silicosis is a fibrosing or stiffening of lung tissue that results from an inflammatory or immune response to combat the inhaled silica dust. Other diseases are also known to occur, including lung cancer and autoimmune diseases that mainly develop as a condition known as scleroderma.

The "dry cutting" of benchtops leads to potentially higher-than-normal exposures of ultrafine dust particles. The particles, as small as one hundredth the size of a grain of sand cannot be seen, but can be inhaled and deposited deep in the lung.

The most recent indication of the potential numbers of workers exposed in Australia came from a report last April from researchers at Curtin University. Modelling the risk of disease to "respirable crystalline silica," using data from sources such as the Australian Bureau of Statistics and the Australian Institute of Health and Welfare, the study found that around 584,050 workers are currently exposed.

This included workers who were working on any products containing silica, such as stone, rocks, concrete and bricks processed by cutting, drilling or grinding. The findings suggest that between 83,090 and 103,860 silicosis cases are expected to result from current silica exposure, and around 10,390 workers will develop lung cancer.

Silica has been called the "new asbestos." In reality, silica exposure among workers has existed for well over a century, yet the diseases were less common. The earliest and largest manufacturer of engineered stone was Caesarstone in Israel in the early 2000s. Dr Mordicai Kramer, a cardiothoracic surgeon was the first to observe an increase in silicosis and made the link to the cutting of the stone. Israeli stonemason Yigal Rosman, who was suffering from silicosis, noticed Australia was a large customer of Caesarstone. In 2014 he wrote to Australian Employment Minister Eric Abetz to sound the alarm.

It was not until 2015, however, that the first case of silicosis associated with artificial stone was reported in Australia. This was followed in 2017 by a small study describing the disease in eight patients. This study associated the disease with a failure to enforce adequate safety measures, such as dust control to limit inhalation.

Only in 2018 did the Queensland state government department Workcover screen 10 workplaces involved with cutting stone. The initial review was later expanded to include all stonemasons in that state. By May 2019, Workcover had accepted 141 silicosis claims.

Nationally, since 2015 almost 580 stonemasons have been diagnosed with silicosis out of an estimated workforce of 4,000. The first fatality caused by silicosis from engineered stone was 36-year-old Queensland stonemason Anthony White, who was diagnosed in 2017 and died in March 2019.

At the time of White's death, his brother Shane White told Nine News: "Everyone was talking about how great it [engineered stone] was. It's a cheap product, easy to handle, and they could make more money off it in the long run. But why wasn't there a lot more thought put into the hazards of it?

"In the whole time I was in the industry there was only a handful of companies that I know of that you would get fired from for not wearing your mask. Any other ones it would be a slap on the wrist and put your mask on."

The White family demanded the products be banned and blamed governments for failing to police workplace standards. Anthony's mother Di White told the Australian Broadcasting Corporation (ABC): "Personally, I have not had a response from any of them. This has been out in the media since my son passed away. Not one government official has sent us a letter of condolences. I know to them that's one individual, but that's my son."

The former Liberal-National federal government eventually established a National Dust Disease Taskforce, which operated from 2019 to 2021. The taskforce's main finding was that approximately one-quarter of engineered stone workers prior to 2018 suffered from silicosis or other silica dust-related diseases.

The taskforce acknowledged: "The risk of asbestos dust was first recognised in the 1930s, however, a complete ban on the use of asbestos was only implemented on 31 December 2003, after tens of thousands of individuals had been exposed, and many thousands of Australians dead from mesothelioma, lung cancer and asbestosis. We do not want a repeat of this experience in relation to silica dust."

Nevertheless, the report postponed banning the substance, possibly to be considered in 2024, and instead recommended a registry to track cases of silicosis. All the federal and state governments accepted the report, but even the registry has been delayed. Last month, it was reported that draft legislation would be tabled later this year to require doctors to hand over information within 30 days about workers who have developed these diseases.

Dr Graeme Edwards, a former member of the taskforce, has labelled the combined inaction of governments as "tantamount to industrial manslaughter." He told the *Sydney Morning Herald*: "It's about time they actually insisted on action, [and] create the legislative framework that enables it to happen—which is a political responsibility—and protect the workers of Australia."

Dr Edwards said the proposed legislation was essentially "draconian," fining doctors up to \$8,000 for not reporting silicosis related diseases. That could potentially undermine the registry's integrity and delay diagnosis for fear of being fined.

The manufactured product is cheaper than marble or other more expensive products. This has seen its use surge over the past 20 years, during which a housing and renovation boom has generated massive profits for the building industry, which has strong ties to the major parties and the trade unions.

Occupational exposure-related illnesses have a long history of companies going to great lengths to minimise payouts to workers. James Hardie, one of the largest producers of asbestos in building materials, spent many years, with government assistance, fighting workers and their families to avoiding paying out compensation for lifethreatening diseases such as asbestosis and mesothelioma.

The history of the corporate and government response to the silicosis epidemic is no different. In February, the Albanese government's Workplace Relations Minister Tony Burke convened a meeting of state and territory ministers to discuss the issue. He called for a coordinated national response but insisted that would take "a good 12 months or more."

It is likewise with the trade unions. While the Australian Council of Trade Unions (ACTU) commissioned the Curtin University report, it backed that further delay in banning engineered stone. The Construction, Forestry, Maritime, Mining and Energy Union said its members would refuse to work with silica-containing products if no ban was implemented on engineered stone by July 2024. But many more workers could be scarred for life or die painfully before then.

At the time of the ACTU announcement, stonemason Duane Calvey, who has been diagnosed with silicosis, told the ABC: "I don't believe there's any safe way to work with it, where dust isn't going to be taken with somebody on their clothes or on their skin."



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