A new online tool from the BCCSA can help employers generate exposure control plans using pre-existing exposure data.

Joined forces: Online tool and new regulations help fight the dangers of silica

By Helena Bryan

Workplace exposure to silica is associated with lung cancer, silicosis, pulmonary tuberculosis, airway diseases, autoimmune disorders, and chronic renal conditions. Occupational diseases like these can be prevented by implementing effective exposure control plans. As of May 1, 2017, new regulations and an online silica tool from the BCCSA have made estimating exposure and generating control plans easier than ever.

Sometimes, bad things come in small packages. Take the tiny invisible silica crystals that hide in the dust created when grinding or drilling concrete, or cutting bricks or tiles. Breathed in, those crystals can get into tender lung tissue, leaving scars. Enough of them find their way in, and the lungs can effectively turn to stone, a condition called silicosis.

To prevent exposure, you first have to know the risk is there, and then understand how you can control it. And that's where the May 1, 2017 amendment to the Regulation related to silica and a nifty new supportive tool come in.

Companies in the construction and manufacturing sectors, where silica exposure is concentrated, can now find greater guidance in the Regulation for protecting the more than 50,000 workers at risk. They also have access to a practical online resource for generating appropriate controls.

"We changed the Regulation in response to feedback that said it was difficult to figure out," says WorkSafeBC senior occupational hygienist Geoff Clark. "The information on silica was buried in different parts of the Regulation. Now, that information is in one set of provisions, section 6.110 to 6.115."

In addition to structural changes, the Regulation now also allows qualified persons to determine whether pre-existing exposure data may be used to estimate

exposure and develop control plans — rather than requiring employers to monitor the air for silica dust.

"This is an important change," says Don Schouten, WorkSafeBC manager, Regulatory Practices, "because projects on construction sites tend to be short-term, and getting results from air sampling takes time."

A new online tool

The silica tool itself was developed by the BC Construction Safety Alliance, in collaboration with WorkSafeBC and the University of B.C. "This project was a great opportunity for academia, the regulator, and industry to collaborate for the betterment of safety in construction in a very practical way," says executive director of the Alliance, Mike McKenna. "Contractors can now assess silica dust risk in real time, onsite. And we've created a template that can be used on future projects."

More than two years in the making, the free online resource walks employers through the process of producing exposure control plans. Basically, employers can plug in information such as a specific job task (like "grinding concrete"), the equipment used to perform it (like "horizontal grinder"), and the controls used (like "local exhaust system"). The application will take all the data into account and then generate an exposure level. If the level is above the allowable limit, the employer can try out different controls to see their effect on reducing the exposure level. At the end of the process, the employer has a custom control plan reflecting all of the information provided by the user and generated by the tool. The online tool works on computers, tablets and smart phones — and exposure control plans can be managed and stored electronically.

While it relies on a mountain of complex data, the tool isn't complicated to use, says scientific advisor Hugh Davies, a UBC associate professor in Occupational and Environmental Health. "We knew that if the average person had to struggle to find the material they needed, they probably wouldn't follow through."

Response so far has been overwhelmingly positive, says silica tool project manager Nancy Harwood, a lawyer and owner of the Harwood Safety Group. "While we've done some tweaking to make sure everything makes sense, none of the 50 employers involved in the testing had any negative comments."

That doesn't mean it won't evolve. "This is a very robust application," says Davies. "If someone plugs in a silica process the tool doesn't recognize, it will notify the BCCSA that the data is missing. And as we collect more data, it will only get stronger."

Davies cautions the tool isn't meant to be a cure-all, and knowledge of the Regulation is still important. "What's more, if a certain process isn't part of the application's database, onsite sampling may still be required. Think of the tool as a really, really good support for the Regulation."

The silica tool is now available to B.C. employers on the BCCSA website.