

Assessment of workers exposed to respirable crystalline silica dust: Guidance summary

This National Guidance has been developed to guide medical practitioners identifying and assessing people at-risk from respirable crystalline silica (RCS) dust exposure and carrying out health surveillance. Recommendations are consensus-based and guided by the best available evidence at the time of publication.

CASE IDENTIFICATION

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| GP | <p>1. Identify a person at risk and refer them to a suitably qualified medical practitioner</p> <ul style="list-style-type: none"> > Refer people exposed to RCS dust due to work with engineered stone, to a suitably qualified respiratory or occupational physician > Contact the person's medical practitioner responsible for their health monitoring program (if they have one) with informed consent |
| | <p>2A. Prior to a referral, collect baseline data for case identification</p> <ul style="list-style-type: none"> > Collect baseline demographic, medical and exposure history > Assess respiratory symptoms and consider a referral to a respiratory laboratory that meets TSANZ accreditation standards for baseline lung function testing > Consider a referral for a chest x-ray (CXR) performed and reported to International Labour Organization (ILO) standards > If available and with informed consent, upload any information onto their My Health Record and/or provide it to the referred physician |
| Respiratory or occupational physician | <p>2B. If suitably qualified, determine the person's exposure risk</p> <ul style="list-style-type: none"> > Complete the <i>exposure risk matrix</i> to determine the person's exposure risk > The medical practitioner has a professional obligation to advise the general practitioner (GP) of the person's exposure risk |
| | <p>2C. Carry out lung function testing for all people exposed to RCS dust</p> <ul style="list-style-type: none"> > People exposed to RCS dust due to work with engineered stone must be referred to a respiratory laboratory that meets TSANZ accreditation standards for baseline lung function testing, including spirometry, carbon monoxide diffusing capacity (DLCO) and static lung volumes as early as possible in their working life > Monitoring with spirometry should be performed at least annually or 6 monthly in those classed as high or very high RCS dust exposure and must be reported using the Global Lung Function Initiative (GLI) spirometry equations as per Australian and international standards > The following thresholds require review for further assessment, bronchodilator responsiveness testing and/or referral to a respiratory and/or occupational physician: <ul style="list-style-type: none"> ▪ Absolute forced expiratory volume in one second (FEV1) or FEV1/forced vital capacity (FVC) ratio less than the lower limit of the normal (LLN) derived from the GLI Spirometry equations. ▪ FVC less than the LLN derived from the GLI Spirometry equations requires a referral for complex lung function testing ▪ Changes in FEV1 or FVC, expressed in GLI percent predicted, declines by >10% but ≤15% from baseline test over any period requires careful consideration for further assessment and bronchodilator responsiveness testing ▪ Changes in FEV1 or FVC, expressed in GLI percent predicted, declines by >15% over any period requires a referral to a respiratory physician |
| | <p>2D. Carry out radiological investigations</p> <ul style="list-style-type: none"> > All people exposed to RCS dust due to work with engineered stone should undergo a CXR > Even if the ILO CXR is <1/0, consider a low-dose high resolution computed tomography (HRCT) when exposure history, symptomatology or lung function testing suggests further investigations > Recommend a multidisciplinary team review of clinical and imaging findings (including the low-dose HRCT) if there is any diagnostic uncertainty > Request a low-dose HRCT for one or more of the following reasons: <ul style="list-style-type: none"> ▪ had high or very high exposure; or ▪ an ILO CXR >0/1; or ▪ any spirometry or carbon monoxide diffusing capacity findings that falls below the LLN; or ▪ significant respiratory/other symptoms; or ▪ other CXR findings suggestive of silica-related disease |

2D. Carry out radiological investigations**Radiologist with expertise in chest computed tomography**

- > The HRCT should be performed using a radiation dose as low as reasonably achievable
- > The low dose HRCT should be supervised and reported by a specialist radiologist with expertise in this area

2E. Carry out other tests

All people should at a minimum have a:

- full blood count and a biochemistry analysis including electrolytes, liver function and creatinine
- c-reactive protein
- autoimmune screen
- if indicated, order an interferon gamma release assay test for latent or active tuberculosis

3. Offer and provide psychosocial support

- > Offer and provide ongoing psychosocial support for all people diagnosed or exposed to RCS dust
- > Use the *shared decision-making tool* to discuss options on how to respond to the psychosocial impact of further RCS dust exposure
- > All workers who choose to continue working with engineered stone, should be supported and have continuous health monitoring or surveillance

4. Offer and provide education

Targeted advice should be provided at each visit.

Consider the following important topics:

- complying with safe work practices
- the possible adverse health effects related to significant exposure
- importance of hygiene and cleanliness
- correctly using personal protective equipment
- fit checking and testing
- being clean-shave if negative-pressure respirators or respiratory protective equipment that needs fit testing are used
- smoking cessation if a smoker

HEALTH SURVEILLANCE**5. Provide ongoing health surveillance**

- > Use the recommended health surveillance schedule for people who have not been diagnosed with silicosis at baseline
- > For people with low to very high risk of RCS dust exposure due to work with engineered stone, expert consensus suggests surveillance is required for 20 years or more, and preferably lifetime given the raised risk of lung cancer. This risk is increased with smoking

6. If the person is no longer working with engineered stone, the person's GP should carry out ongoing health surveillance

- > If the person is in an at-risk industry, the GP should maintain awareness of the results of their patient's ongoing health monitoring needs
- > If the person leaves an at-risk industry, the GP assumes the lead role to carry out ongoing health surveillance
- > With informed consent, the medical practitioner responsible for the health monitoring program can share care plans and communicate with any treating medical practitioner involved

7. Notify the local registry (if available) about all cases of silica-associated disease or follow your state or territory requirements

- > With informed consent, findings and surveillance schedules should be provided to their GP and uploaded to their My Health Record (if available)
- > Notify the local registry (if available) about all cases of silica-associated disease or follow requirements for your state or territory