

Worker Health

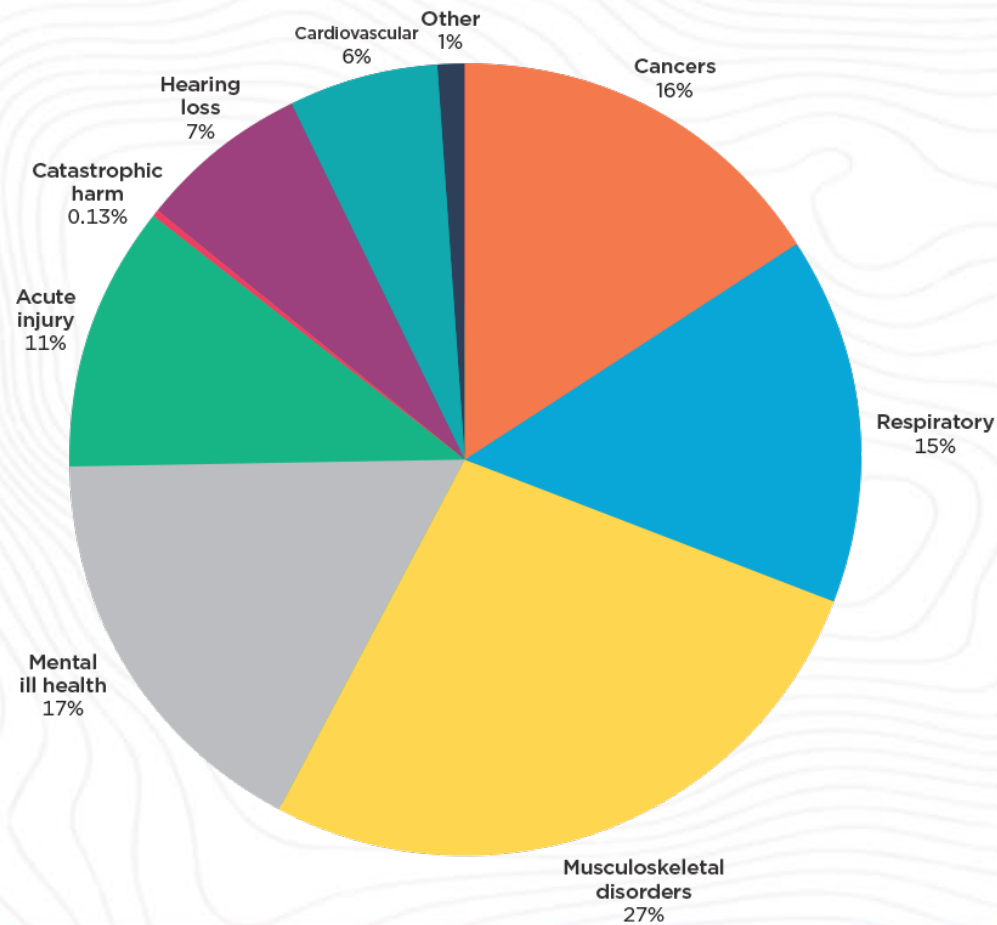


Work related Health exposure limits

- **Work-related health deaths are estimated at 750-900 a year.**
- **There are an estimated 5,000-6,000 hospitalisations each year due to work-related ill-health.**
- **A worker is 15 times more likely to die from a work-related disease than from a workplace accident.**



Work related Health



What does legislation require?

- **Identify and assess risks to worker health**
- **Select and implement controls for risks to worker health**
- **Develop a Worker Health control plan for worker health (Regulation 108)**

Noise



Sources of high noise exposure

- **Blasting - sirens, stemming, mixing, transporting**
- **Drilling - exploration, blast holes**
- **Compressors**
- **Fixed plant - crushers, trommels, screens, conveyors, pumps**
- **Workshops - hoists, cranes, fans, pressor cleaners**
- **Hand tools - angle grinders, drills, power tools**
- **Mobile machinery - loaders, excavators, trucks, bulldozers**
- **Any area where voices have to be raised too be heard by someone one metre away**

Noise exposure limits

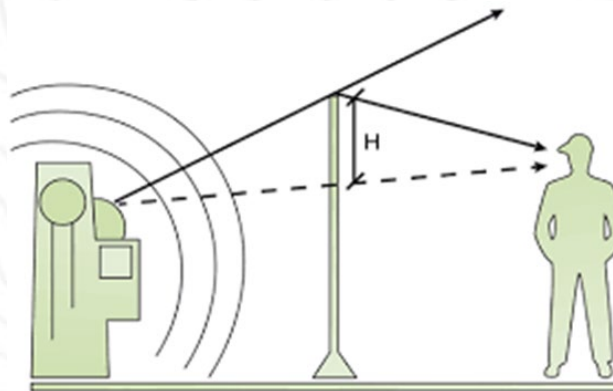
- Noise exposure level, $L_{Aeq.8h}$ of 85 dB(A)
- Peak noise level, L_{peak} , of 140 dB



Once you lose your hearing you won't get it back!!

Noise controls

- **Eliminating noise exposure**
- **Isolating noise from workers, or workers from noise**
- **Replace with quiet alternatives**
- **Fit silencers (e.g. mufflers)**
- **Provide acoustic barriers**
- **Appropriate PPE**



Noise health monitoring



- Where limits exceeded, annual audiometric testing of workers
- Testing conducted to AS/NZ 1269 series

See the Approved Document of Practice for the Management of Noise in the Workplace

Airborne contaminants



Sources of airborne contaminants

- **Dust, including respirable crystalline silica**
- **Diesel engine emissions**
- **Gases**
- **Welding fumes**
- **Blasting fumes**
- **Vapors and mists (incl. those containing legionella)**
- **Asbestos, both naturally occurring and man-made**

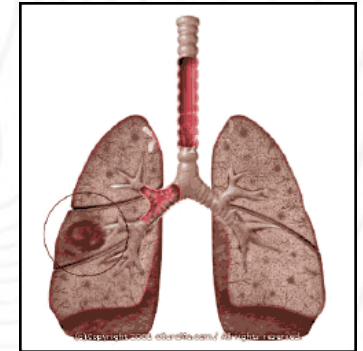


Respirable Crystalline Silica (RCS)



- Invisible to the naked eye
- Created when materials containing silica are cut, crushed, ground, drilled or otherwise disturbed
- Exposure is more important than content

- RCS inhaled can accumulate in the lungs for many years
- Increased risk of tuberculosis, chronic obstructive pulmonary disease, and lung cancer



Air Quality in the Extractives Industry (ACOP)

Recommends that quarries and alluvials have an Air Quality Management Plan that details:

- **types of dust and contaminants in the air**
- **amount and length of exposure**
- **monitoring of air quality**
- **control and suppression of dust and other contaminants**
- **circumstances and requirements for its periodic review and revision**
- **auditing programme**

Exposure monitoring and health monitoring

Requirements of primary duty of care under HSAW Act:

- ***Exposure Monitoring*** - to determine whether the concentration of a substance hazardous to health at the workplace, exceeds the relevant prescribed exposure standard
- ***Health Monitoring*** - to ensure that the controls in place are effective, and that airborne contaminants are not causing adverse effect on the health of workers

Dust controls

- **Suppression by design**
- **Water cart**
- **Enclosed and clean cabins**
- **Wet dust suppression**
- **Dry dust extraction**
- **Separation of workers from sources of dust**
- **Appropriate PPE**



Legal requirements

Mining Regulation 108 – Worker Health Control Plan

“ hazards are to be monitored and controlled where they are present at the operation”

Mining Regulation 127 – Medicals must be offered:

- **Pre-employment**
- **Before ceasing work, unless had a medical within the past 12 months**
- **Periodically, at least every 5 years**

Silica dust control plan

Task/Area		Control methods	Comments
Cutting Sandstone	Excavator With saw	<ul style="list-style-type: none"> • Restrict access to work area. • Ensure door and window seals are working regularly • Keep cabin clean (Vacuum regularly) • Check filters and air conditioning • Wait 20 seconds before opening door once machine turned off. • NOTE: Sharp tools generate less dust than blunt tools or draw bits 	
	Wire saw	<ul style="list-style-type: none"> • Restrict access to work area. • Operator to wear air stream helmet if exposure exceeds 30 minutes • P2 respirator if exposure less than 30 mins in any one day. 	
Cutting shed	Saws	<ul style="list-style-type: none"> • Restrict access to work area. • Ensure water available to all saws • P2 Respirators • 	
	Stone masonry work	<ul style="list-style-type: none"> • Restrict access to work area • Operator to wear air stream helmet 	
Amenities		<ul style="list-style-type: none"> • Wet wipe/mop any surfaces or use vacuum regularly (Do not sweep office floors) • Keep doors and windows clean • Check air conditioning filters weekly • Do not sweep office floors. Use heavy duty vacuum or wet mop. • Workers should be able to wash and shower at the end of each shift, or alternatively should remove dusty clothing prior to leaving site. 	
Haul Roads		<ul style="list-style-type: none"> • Construct haul roads using suitable material • Water haul roads (sprays or water cart) • Restrict movement of light vehicles and pedestrians • Locate amenities away from haul roads • Dedicated light and heavy vehicle parking areas • Speed limit control • 	
Loading areas		<ul style="list-style-type: none"> • Water loading areas (sprays or water cart) • Restrict movement of light vehicles and pedestrians • Locate amenities away from loading areas • Dedicated light and heavy vehicle parking areas 	



APPROVED DOCUMENT OF PRACTICE

Worker Health in Extractives

APRIL 2016



MinEx

Wayne Scott

wayne@aqa.org.nz
mobile: 021 944 336