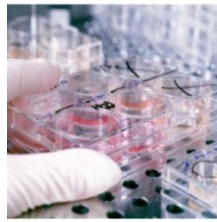




NATIONAL INSTITUTE FOR
OCCUPATIONAL HEALTH

Division of the National Health Laboratory Service



Burden of work-related disease in construction

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March 2017



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Setting

Large/small (DIY Australia)

Rural/urban

Changing

Workplaces

Workforces



Setting: rural

Multiple
contractors
Multiple
trades
Short-term
and long-
term
workers
Changing
co-workers

Many potential work-related diseases

OSHA

Health Hazards in Construction

https://www.osha.gov/dte/grant_materials/fy09/s-h-19495-09/health_hazards_workbook.pdf

Many potential work-related diseases

Traumatic injury

Fatalities akin IMR

Physical

Ionising radiation

Noise

Temperatures

Vibration

Confined spaces

Ergonomic

Manual materials handling

Poor tool design

Awkward postures/repetitive/frequent

Biologic

Mosquitoes

Venomous animals

Mould

Many potential work-related diseases

Chemical

- Pesticides
- Solvents (paint CTE)
- Glues (isocyanates)
- Formaldehyde
- Coal tar /asphalt (PAHs)
- Diesel exhaust emissions
- Acid mists

Metals

- Welding
- Lead?
- Chrome
- Cadmium

Dusts

- Silica (**USA, Ireland, Israel**)
- Asbestos: global 3rd wave
- Cement
- Wood (carcinogen)

Many potential work-related diseases

Psychosocial

Insecure work

Absent family

Shift work

High workload and low control (occupational stress)

Many potential work-related diseases

South African data

PubMed searches for disease in South African construction industry

South Africa Construction xxxxxxxxxxxx (*disease*)

Disease		Hits (articles)
NIHL		0
Dermatitis		0
Musculoskeletal		0
Mesothelioma		0
Silicosis		0 (3 hits nil pertinent)
Cancer		0 (4 hits nil pertinent)



**TABLE III. CASES OF SILICOSIS, PMF AND LIFETIME EXPOSURE TO SILICA
MAJOR EXPOSURE**

Industry	Cases		L
	No.	%	
Foundries	108	49,8	
Ceramics factories	29	13,3	
Refractories	23	10,6	
Stone or ore crushing	20	9,2	
Excavation and trenching	11	5,1	
Grinding	5	2,3	
Furnace maintenance	5	2,3	
Masonry	3	1,4	
Abrasive blasting	2	0,9	
Scouring soap manufacture	2	0,9	
Quarrying	2	0,9	
Other sand processing	2	0,9	
Glass manufacture	1	0,5	
Non-refractory brick manufacture	1	0,5	
Incomplete data	3	1,4	
Total	217		

Occupational asthma with latency in construction reported to SORDSA 10/1996 – 10/98

Industry		Cases (% total)
All industries		195 (100%)
Construction and engineering		15 (8%)
Health care		48 (25%) Latex surveys
Cereals		25 (13%)

Industries associated with mesothelioma in 123 South African cases 1990s

Industry		Cases (% total)
Construction		14 (11%)
Asbestos mining and milling		35 (28%)



Dermatitis. Andre Rose. 2006-2008. 129 cases. Nil recorded from construction.

Conclusion: paucity of data

Many potential work-related diseases

International data

Table 3.–Mortality from chronic obstructive pulmonary disease (COPD) among male construction workers according to exposure to different agents

Exposure	Deaths from COPD n	Relative risk 95% CI	Individuals n	Person-years
Controls	200	1.0	116894	2203973
Inorganic dust	423	1.16 (1.05–1.28)	154324	2911313
Gases and irritants	127	1.18 (0.98–1.41)	52434	921677
Fumes	165	1.22 (1.04–1.42)	69657	1319629
Wood dust	35	0.77 (0.53–1.07)	21479	381351
Any airborne exposure	523	1.12 (1.03–1.22)	200735	3746488

CI: confidence interval. A man can be included in more than one exposed category. Analysed with the person-years method stratified for smoking and age.

Incidence rates occupational diseases (ODs) in Dutch construction 2014

Disease		Incidence in 2014
All ODs		12 964 / 100 000 (13%)
Hearing loss		8 125 / 100 000 (8%)
Musculoskeletal disorders		2 081 / 100 000 (2%)

Table 2 Radiographic abnormalities consistent with pneumoconiosis (n (%)) by B-reader and the median of the readings of radiographs of construction workers

	n ^a	Profusion category							
		0/0	0/1	1/0	1/1	1/2	2/1	2/2	2/3
Reader 1	1330	580 (43.61%)	234 (17.59%)	293 (22.03%)	186 (13.98%)	29 (2.18%)	3 (0.23%)	5 (0.38%)	-
Reader 2	1327	863 (65.03%)	337 (25.40%)	82 (6.18%)	31 (2.34%)	10 (0.75%)	2 (0.15%)	1 (0.08%)	1 (0.08%)
Reader 3	1297	1023 (78.87%)	183 (14.11%)	63 (4.86%)	25 (1.93%)	1 (0.08%)	2 (0.15 %)	-	-
Median	1294	868 (67.08%)	295 (22.80%)	94 (7.26%)	33 (2.55%)	1 (0.08%)	2 (0.15%)	1 (0.08%)	-

Higher prevalences in those with most exposure.

Tjoe Nij. 2003. OEM.

Occupation and work-related ill-health in UK construction workers

Disease	Occupation	Increase in risk compared to UK population
Skin cancer	Roofers	6.3
Dermatitis	Metal workers	1.4
Asthma	Welders	3.8
Lung diseases	Pipe fitters	4.5

Stocks et al. Occupational Medicine (Lond). 2011.

Globally

“About 30% of construction workers suffer from back pains or other musculoskeletal disorders..”

<http://www.cidb.org.za/publications/Documents/Construction%20Health%20and%20Safety%20in%20South%20Africa.pdf> 2016

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