

# **Construction workers: clinical features and workplace prevention**

# ST. MICHAEL'S

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# BACKGROUND

- Contact dermatitis is the most common occupational skin disease
- Construction workers are at high risk for occupational contact dermatitis (OCD), both irritant and allergic
- There may be varying exposures and causes of • different occupations within the OCD in construction sector

# **OBJECTIVE**

To identify the common causative agents, health care utilization and prevention activities in the construction sector from 2012 to 2022

# **METHODS**

- The St Michael's Hospital patch test database is approved by the REB of St Michael's Hospital
- A standardized questionnaire is utilized in the patch test clinic to document the history collecting the following
  - Clinical information including past and family history of atopy, rash location, description and treatment
  - Workplace information including workplace characteristics and prevention activities
  - Lost time and workers' compensation status
  - Health care utilization
- patient consents, their demographic, the • 11 diagnostic, patch test and questionnaire data is entered into a SPSS database
- Statistical analysis is performed using SAS

# RESULTS

**Table 1**. Characteristics of participants (n=1505)

	Construction workers	Non-construction workers
Age (mean in years)	41.6	43.4
Age (>40)	52%	59%
Sex (% male)*	96%	46%
Length of time with dermatitis before consultation	39 months	37 months
Hand involvement*	94%	85%
Severity of dermatitis (moderate to severe)*	48%	32%
Occupational allergic contact dermatitis*	62%	46%
Occupational irritant contact dermatitis*	62%	76%

\* Indicates statistical significance

#### **Table 2.** Workplace characteristics (%)

		Construction	Non construction		
		workers	workers		
Size of	<20	63	23		
workplace (no. of employees)*	20-50	20	11		
	51-100	8	8		
	>100	8	58		
Unionized*		38	44		
Received general health and safety training*		64	81		
Received WHMIS	training	76	81		
Received skin specific training		Received skin specific training		48	58
Wear gloves at work		97	93		
Handwashing >20X per day*		4	33		
<ul> <li>Indicates statistical significance</li> </ul>					

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### • Overall, 3,562 patients consented including 138 construction workers

### • 1,505 had work-related contact dermatitis including 81 construction workers, results of those with work-related contact dermatitis are presented.

#### **Figure 1**. Characteristics of Skin Condition (%)

Filed a compensation claim\* Think the problem is related to work\* If lost time, average # of days Lost time from work Worse at work\* Better away from work\*



\* Indicates statistical significance

Table 4. Positive patch test results – common allergens by job (%)						
Job	Carba mix	Thiuram mix	Chromium*	Nickel	Cobalt*	Ероху*
Cement worker	16.7%	16.7%	58.3%	16.7%	33.3%	16.7%
Flooring	44.4%	44.4%	22.2%	11.1%	11.1%	44.4%
Laborers	6.3%	6.3%	12.5%	0	0	31.3%
Trades	14.3%	14.3%	0	14.3%	0	0
Cement worker Flooring Laborers Trades	16.7% 44.4% 6.3% 14.3%	16.7% 44.4% 6.3% 14.3%	58.3% 22.2% 12.5% 0	16.7% 11.1% 0 14.3%	33.3% 11.1% 0 0	16.7 44.4 31.3

Indicates statistical significance

# CONCLUSIONS

- The causes of allergic contact dermatitis vary with job.
- Prevention efforts can be more specifically targeted with this information.

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#### **Centre for Research Expertise** in Occupational Disease UNIVERSITY OF TORONTO

Table 3. Positive patch test results – common allergens (%)

		Construction workers	Non- construction workers
	Carba mix	12.4%	6.9%
	Thiuram mix	12.4%	7.1%
	Chromium*	17.3%	2.5%
	Nickel*	8.6%	1.8%
	Cobalt*	6.2%	2.1%
0%	Epoxy resin*	19.8%	4.7%

\* Indicates statistical significance

Construction workers are at risk for both irritant and allergic contact dermatitis