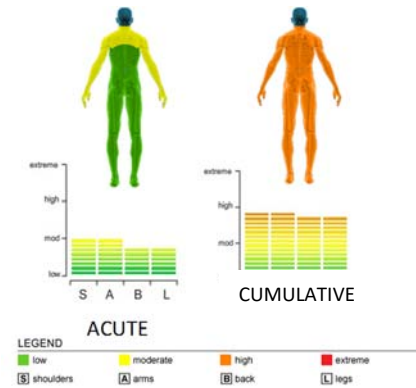


**Project: Sweeping Asphalt Production Plant Grounds**

- Plant operators used long-handed standard brooms to sweep fine dust into loads shovelled into wheel barrows and then to bins.
- Task performed mostly at end of shift: requiring 4 ½ hrs / shift or 90min each for 3 workers. Shifts frequently extended to 13 – 14hrs late evening.
- Repetition, duration, and fatigue were of concern, as well as neck discomfort.



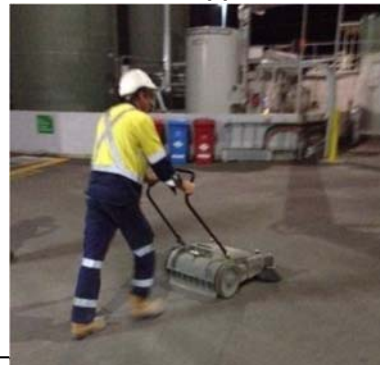
**Health Issues and Initial Assessment**



- High risk for whole body cumulative strain

**Control Strategies: Commercial Manual Push Broom with Hopper**

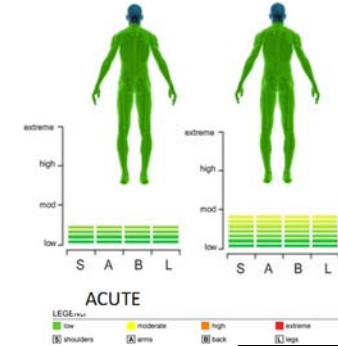
- A commercially available manual push broom with circular brooms and hopper.
- Interventions = 3 Site visits (initial, control development workshop, and equipment trial / re-evaluation).
- Activities: observation, conversation, measures, task analysis, data collection, photo imagery, video, design philosophy development, management and procurement consultation, reporting, risk determination, cost analysis, and



**Cost Benefits and Project Times**

- 8 weeks from task ID to resolution
- Reduced work time to half, total of 2hr 15min, or 45min per worker among 3 team members; save of up to 2.5 hrs per shift or annualised cost savings of \$27K.

**Analysis After Implementation**



The new and relatively inexpensive, commercially-available control drastically reduced the risk of musculoskeletal injury.

	Risk Reductions	
	Acute	Cumulative
Shoulders	50%	53%
Arms	50%	53%
Back	33%	50%
Legs	33%	50%

Fatality	Severe Disability	Moderate Disability	Temporary Injury	Discomfort	Comfort/Efficiency	Conditioning	Social Connection	Profitability	Business Integration	Industry Liaison
○	○	☑	☑	☑	☑	☑	☑	☑	☑	☑
SAFETY		Occupational Health			Doing - Being - Becoming - Belonging			Health & Wellness		PERFORMANCE