**Back Injuries in Construction**

Working in the construction industry is tough and physically demanding. The industry has some of the highest rates of work place injuries in New Zealand (1). The prevalence of low back injuries amongst construction workers is as high as 54% (2). Back injury may result in disability or time away from work, which has detrimental effects on the employer, the employee and their colleagues.

ACC has implemented various programme and tools which can be accessed on their website. In December 2013 the government implemented Worksafe NZ which is a regulatory body who is aiming for a 25% reduction of work place death and serious harm injuries by 2020. Some local builders are increasingly frustrated with the time and cost for them to implement health and safety regulations and recommendations. However reducing pain, discomfort and injury to this industry would undoubtedly reduce injury rates whilst maintaining productivity.

**Contributing factors to back injury at work:**

It is important to remember that it is often not one factor that causes a back injury but rather a combination of factors. Discomfort, pain and injury may develop over time rather than from a one off incident. Often the one off incidents are ‘the straw that broke the camel’s back’ and there is usually a few warning signs beforehand.

**Physical Factors:**

Lifting **heavy**items such as pre- fabricated walls can place a lot of strain on the back (3, 4). The amount of strain placed on the back can be influenced by technique used.

**Awkward postures** are often required when lifting building materials which also places the spine under more risk for injury (4). Stooping and kneeling is associated with low back pain amongst builders(2)

**Repetitive lifting** tasks can predispose the musculoskeletal system to physical fatigue (5). This may then lead to back injury as the musculoskeletal system can no longer maintain the effort required to do the job.

**Equipment**such as pneumatic wall lifts, nail gun extension handles and the safety hoist  significantly reduce the amount of strain on the lumbar spine(4). There may be an increase in productivity when using such equipment; however their cost needs to be considered. Other more common equipment such as tool belts must be used correctly with the weight evenly distributed to avoid aggravating the spine.

**Work Organisation:**

How the job tasks are **planned**and carried out is important. It would make sense to avoid heavy lifting first thing in the morning when the body is not fully warmed up and also at the end of the day when fatigue may have set in.

Working **hours**which allow for adequate breaks and avoiding overtime will allow the body periods of recovery.

A good **safety culture** is very important. Poor training and safety appears to influence injury prevalence in a negative way (6). In particular, lost work days from injury were significantly associated with poor training, safety climate, harassment and personal compliance to safety (6). Strong safety culture resulted from a leadership style that was collaborative and encouraged relationship building (7).

Construction industry can be very set in tradition and resistant to change which can work against it when injuries are concerned. **New innovations** are often only adopted if they demonstrate advantages for productivity and quality, however not necessarily on their ability to reduce injuries(8).

**Psychosocial Factors:**

Increase in **work stress** gradually increases the prevalence of workplace low back pain (2) and injuries in general (6, 9). This may include both physical and mental stress and also extends to home stressors such as relationships, family, death and money or health issues.

Someone’s **coping ability** in relation to not only injuries but life experiences themselves is also important. If ten people have the same injury, they would all cope with it very differently and this must be acknowledged.

**Communication and relationships** with colleagues is very important as employees will feel more valued and respected in the work place.

**Individual Factors:**

Increased **age**is associated with severe low back pain, however mild/moderate low back pain does not have any clear association (2).

**Physically fitness** is important as the job requires good levels of strength and endurance.  No sporting activity outside of work is a risk factor for injury(10).

**Good health/diet** is important as it will set workers up for the day. It will give them enough energy to function and also enable adequate recovery from a hard day on site. As construction workers work such a physical job they can sometimes feel that they can get away with inadequate food intake as they are going to ‘burn it off’, however they will not be able to function to their full potential.

Inadequate**sleep** levels can influence fatigue, ability, vigilance at work which can increase injury risk (10).

There is a significant association between **Type A personalities**among manual workers (2). It is possible that this type of person is more likely to push themselves more which may predispose then to injury.

**Skill level**may be influenced by informal and formal training and it important that everyone has good understanding of the job tasks at hand and safety onsite.

**Poor personal safety behaviours** increase the rate of injuries (9). People don’t intend to get injured, however often the behaviour leading to the injury was intentional. An example would be a builder who knew he was lifting beyond his means but did it anyway as there was no one around to help him.

**Environmental Factors:**

**Location and state of the building site,** appropriate temperature, good lighting and maintenance of equipment are all important.

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