

An Integrated Approach to Injury Prevention and Improved Safety in Coal Mining

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Prior to engaging an Injury Management and Injury Prevention contractor at Peabody Energy Coppabella Mine, the site was experiencing multiple recordable musculoskeletal injuries. This was having a negative effect on the health of the workforce and an alternate intervention program was required to address this. The injury statistics in 2011 showed 60 percent of the recordable injuries were musculoskeletal injuries that could be treated by a physiotherapist and/or self-managed with the appropriate advice and education.

Coppabella Mine is an open cut coal mine situated 77 kilometers from the township of Moranbah in the Bowen Basin. Moranbah is the closest location for medical services including a hospital, two doctors' surgeries, one Physiotherapy clinic and several Chiropractors. Previously workers who needed medical or physiotherapy treatment had to book into local clinics. When an appointment was available the injured worker would drive or be driven to the clinic. This made a round trip that could take several hours and could possibly cause an exacerbation of the injury.

Another problem the mine faced was the exacerbation of non work related injuries or overuse (insidious onset) injuries at work with these either being reported as a Work Related Injury (WRI) or an increased amount of absentee days to get the injury assessed and treated. Injuries were not being reported consistently which could lead to the deterioration of the healing process and cause increased severity rates as well as unnecessary production losses and increased workloads to the employees and the mine. A more consistent treatment approach needed to be implemented.

Coppabella Mine contracted a Mackay-based Nominated Medical Advisor (NMA), a qualified occupational health doctor, to help manage the injuries as well as set guidelines for treating common musculoskeletal injuries that do not require off site medical treatment. Next, the mine sourced a contractor to manage the Injury Prevention

and Management process. The successful contractor, Construct Health, based in Moranbah, was familiar with the strain the local hospital and doctors surgeries were under and knew how to control the inundation of musculoskeletal injuries that can be treated and managed by a first contact practitioner such as a Physiotherapist.

In May 2012, Construct Health began the implementation of a three pronged approach to;

- (i) Manage and prevent musculoskeletal injuries
- (ii) Decrease injury frequency and severity rates, and
- (iii) Provide a superior health service for the workforce

This was accomplished first by implementing a consistent, integrated clinical management process and the provision of onsite physiotherapy services for both work related and non-work related injuries. Secondly, a multi-level injury prevention program targeted jointly at the health and safety of the workforce was executed. Thirdly, the on-going process was refined and expanded in collaboration with the client to include Health Management Plans (HMP) for employees.

This program has been running for 12 months and is on-going. At the time of publication the mine incurred an 83 percent reduction of musculoskeletal injuries as well as a 60 percent reduction in Total Recordable Injury Frequency Rate (TRIFR) during this period. This approach acknowledges the upfront importance of the health and safety initiatives in preventing and managing injury. It ensures paramount clinical care for workers when an injury does occur whilst being mindful of site injury classification definitions.

Injury Management

The Injury Management process is a multi-step process that involves the worker, Supervisor, Health and Safety Manager, NMA, and the Physiotherapist. When a worker is injured onsite the Physiotherapist is asked to assess the worker and provide the appropriate treatment or referral as needed. If the Physiotherapist is not onsite that day then the Emergency Response Team (ERT) member will distribute the first aid or injury management according to the NMA's instructions. The ERT will then either refer to a medical doctor or ask the Physiotherapist to review the worker on the next available day. If required, the worker can be reviewed on the day in Moranbah due to the previously reserved appointment Construct Health provides for Coppabella Mine employees and contractors when the Physiotherapist is not onsite.

The need for consistent physiotherapy services was essential to professionally manage injuries and reduce recordable injury rates. Initially the Physiotherapist was based at the mine three days a week. The Physiotherapist's main role, at this time, was to assess and treat WRI and Non Work Related Injuries (NWRI) for both employees and

contractors. By supplying a service that included treatment of NWRI, Coppabella Mine was able to reduce the incidence of aggravation of these injuries at work. Another benefit for treating NWRI allowed the worker to have further awareness of the injury and management required to attain or maintain a healthy condition. With advice from supervisors the Physiotherapist was able to give the worker precautionary duties for a limited time in order to not aggravate a Personal Injury (PI) or overuse injury, resulting in a decrease of worker absentee days. When a worker was undertaking precautionary duties, the Physiotherapist provided not only treatment, but training and education on how to perform their regular duties without causing further harm or stress/strain to the injured site.

Timely reporting and early intervention was the key to the first step in the Injury Management process. A new culture was created to allow each injured worker to understand their rights to privacy in both WR and NWR cases. The Physiotherapist worked diligently to make sure that the injury reporting process was consistent.

Detailed Physiotherapy treatment notes were recorded (as per Physiotherapy Code of Conduct and Australian Health Practitioner Regulation Agency) and injury statistics collected by the Physiotherapist. The statistics were then used to prepare a quarterly report that outlined at-risk areas for injuries as well as injury trends. The Physiotherapist was then able to target these areas with injury prevention projects to decrease the occurrence of the most common injuries.

Injury Prevention

A multi-level injury prevention program was executed at Coppabella Mine. As a baseline project a Job Dictionary or Critical Job Demands (CJD) document was created to allow all parties to basically understand physical demands of all jobs on this specific site. The CJD involved the Physiotherapist going out onsite with every job to gather information on the demands of each job such as the equipment used and the physical demands of the job such as manual task handling requirements; standing, sitting, squatting, etc. The CJD document also assisted in the development of a site and job specific Return to Work (RTW) plan that could provide guidance in identifying alternate tasks for an injured worker to remain in their normal role. The document could also be sent to the treating doctor of an injured, ill, or post-surgical worker to enable them to understand the standardised role of the worker and assist in creating suitable duties. Similarly the document could be used to create role specific pre/periodic/RTW-employment assessments.

Manual Task Handling Training is a norm for most sites and usually involves a theory and practical session. To educate the workforce on the job, one-on-one or small group

Manual Task Handling Training was and continues to be taught on a practical level for labor intensive jobs. This training allows the worker to learn more about what is happening from an anatomical and biomechanical view. The implications could be from poor handling as well as learning better ways to complete the same task to reduce strain on the body.

Ergonomic assessments/screenings were also conducted regularly on a one-on-one basis. This not only included office staff, but all machine operators and workshop. In all instances the workers were asked to set up a normal workspace and then discuss any issues they were currently having. Aids could be purchased to correct an area for example lumbar support (both office and operator), a paper holder (office), or a foot rest (office and workshop). If a defect is found in a piece of equipment it is reported to the supervisor. These assessments have helped decrease the reoccurrence of both WR and NWR neck and shoulder pain which were the top two most common injury complaints from operators and office staff onsite.

As a preventative measure to discourage heat related illness and educate workers on their personal hydration performance, hydration testing was trialed on small groups of workers that were exposed to the elements daily. The testing was explained to the workers and then the workers were required to continue the testing themselves over four to five days. After the testing was completed the materials were collected and the physiotherapist prepared a report to allow the workers to draw conclusions about how they could improve their hydration.

ERT up-skilling also helped the injury prevention reporting and management process by allowing the ERT to be better informed on how to manage musculoskeletal injuries by improving assessment skills and understanding who to refer to and when. Training has consisted of ligament testing, strapping of joints, neurological exam, up-skilling documentation, and warm up and stretching training in order for the ERT to run daily warm-ups at prestart and after crib. The most significant training for the ERT was Manual Task Handling training and ergonomic assessment and set up. With this knowledge the ERT were able to assist their workmates to ensure ideal set up and manual handling when they noticed an ergonomic deficit or poor manual handling situation on the job.

The Road Ahead

Coppabella Mine management felt they needed to continue to revitalise their healthy lifestyle program. The goal of this initiative was to empower the workforce to strive for a healthy lifestyle while at work and living in camp.

This process started with the implementation of the Health Management Plan (HMP). The HMP was designed to give advice, education, and improve goal setting and goal achieving techniques to help people on site who wanted to live a healthier lifestyle. Some workers were volunteers and others were identified as having a health risk by the NMA in the Coal Board Medical (CBM). Each participant was responsible for attending and setting up their follow-up appointments and continuing meeting their goals. The physiotherapist helped facilitate the process by assessing the worker for musculoskeletal injuries. Most HMP referrals from the Physiotherapist were to dieticians and personal trainers. It was difficult to source Dieticians and Personal Trainers that the worker could consistently schedule to use on their days off and that would liaise consistently with the Onsite Physiotherapist. Consequently, Coppabella Mine decided to facilitate this process and source local professionals to allow the health management program participants as well as all mine site employees and contractors to have easier access to these health professionals.

Construct Health sourced a Dietician from Moranbah who would travel to the mine once a week for Nutrition consults. Also a Personal Trainer from Mackay was introduced to provide group exercise, one-on-one personal training, and Physiotherapist referred rehabilitation three days a week. These initiatives were promoted at prestart and toolbox meetings across site and were accepted extremely well with waiting lists and post tour phone consults for the dietician and maximum numbers in group training. The healthy lifestyle package is advertised via a monthly newsletter that not only promotes the initiatives but gives simple advice and education from all three professionals in a proactive manner.

Conclusion

Education and empowerment is the key to a healthy workforce. When revamping or continuing your site injury prevention program it is vital to examine a few key elements; your worker, the staff and management, the person/company responsible for the initiatives, and your current Health Management and Injury Management Plan.

- Know your worker- What are their concerns? What is the current culture? What are the needs of the workforce? What are the current trends in injury and illness? Learn about the workers job tasks and job demands.
- Support from management- Does management have similar goals to the workers? How do they differ? Will management support the initiatives by taking part in the process and promoting them?
- The company or person employed to run the initiatives- Are they qualified and experienced? Do they promote a hands-on approach? Are their goals similar to

the needs of the business and can they be flexible with their current initiatives on other sites to suit yours?

- Current Injury Management and Injury Prevention- what is currently happening onsite? Do the current programs work or are they outdated? What do the workers and management think about the current programs? What are the trends of your recordable injuries? Are the same injuries happening over and over to different people or the same person?

The above programs and initiatives introduced have been successful at Coppabella Mine because of the consistent use of the programs and initiatives by the workers as well as the continuous support from management. It has facilitated positive changes to individual lifestyles and lifestyle choice, site culture, and a decrease in the number of recordable injuries.