

HAND ARM VIBRATION AWARENESS AND ELIMINATION

Increasing knowledge of hand arm vibration and the implementation of remote equipment to eliminate exposure.

Spark developed a significant hygiene monitoring program to quantify anticipated health hazards, focusing on higher risk exposure groups.

Workers undertaking manual pile breakback with jack hammers were identified as high risk and a focus placed on considering risk controls to reduce a range of health hazards including Hand Arm Vibration (HAV).



The traditional method of manual concrete breaking exposing workers to significant levels of hand arm vibration (left), the use of mechanical aid that eliminates any hand arm vibration (right).

The Situation

Spark developed a significant hygiene monitoring program where the team focused on reducing the health hazards associated with manual concrete breaking, namely hand arm vibration. The team monitored hand arm vibration during pile breakback, trialling the effectiveness of different tools and methods to reduce or eliminate worker HAV.

The team identified that different manual breakers provide different levels of HAV to the operator. Additionally limitations were identified with each of the different types of manual breakers and the time that it took for the operator to meet their allowable limit of HAV was wide spread (in some instances as little as 1.5 hours of an 8 hour shift).

The Solution

The solution was in focusing on elimination which came in the form of a remote-controlled unit that completely eliminated the HAV and the physical exertion hazard to the operator.

The Brokk unit is a revolutionary solution for eliminating the health hazards of HAV and physical exertion in the task of manual breaking. Commonly used for pile breakback, the unit allows operators to control the concrete breaking process from a safe distance using a remote control. By removing the need for direct operator involvement, it effectively eliminates the transmission of HAV to the worker's hands and arms.

Additionally, the unit handles the heavy lifting and breaking tasks, reducing physical strain and minimizing the risk of musculoskeletal injuries.

The unit's precise control capabilities enable efficient and accurate breaking, enhancing productivity while eliminating the need for manual effort.

Benefits and learnings

The limited knowledge in the industry regarding HAV has highlighted the need for better understanding and awareness of this health hazard.

The available tools for reducing HAV levels during manual breaking of piles have their limitations, resulting in workers being exposed to high levels of HAV.

By focusing on increasing awareness and collecting data on HAV exposure, it has become evident that what was once perceived as a task for a single worker in a shift may actually require the involvement of four workers.

The remote controlled unit emerged as a valuable solution, aligning with the hierarchy of control by aiming for elimination of HAV exposure. This innovative tool completely eliminates HAV exposure for the worker, providing a safer and healthier work environment.

Furthermore, adopting mechanical means, for concrete breaking has proven to be more economical than relying on manual labor, providing additional benefits in terms of cost-effectiveness.

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