Safety Alert: Prevention of Ergonomic-Related Hazards in Shipyard Employment

This Safety Alert identifies tasks in shipyard employment that present ergonomics-related hazards. This Alert also provides possible solutions for workers and employers to reduce musculoskeletal disorders (MSDs) in shipyards by preventing stress to the body and unnecessary fatigue. While the Occupational Safety and Health Administration (OSHA) does not have an ergonomics standard, the Occupational Safety and Health Act's general duty clause requires employers to provide workplaces free from recognized hazards that are likely to cause death or serious physical harm. OSHA uses the general duty clause to issue citations to employers at workplaces when ergonomics-related hazards are identified.

Shipyard workers and employers must be fully aware of workplace hazards while working in awkward body postures, performing the same or similar tasks repetitively, exerting large amounts of force, or being exposed to a combination of these risk factors. Exposure to ergonomics-related risk factors can range widely from working at non-adjustable workstations, performing work tasks on scaffolds, to working long hours in the demanding environments like confined spaces. MSDs typically develop gradually, over time, as a result of intensive work. Early indications of MSDs include numbness, tingling, restriction of joint movement, or soft tissue swelling.

Possible Solutions to Reducing MSDs During Shipyard Tasks

Before Starting the Job:

- Workers should work with management to identify possible tasks in shipyard employment that present ergonomics-related hazards. A team should develop a plan to control tasks that pose a risk to workers of developing MSDs. Shipyard employees must be informed and trained on the ergonomic concerns in the workplace and ways to minimize the risk of injury. Training should be provided in a manner and language that they can understand.
- Position lights directly over a work area and/or equipment to reduce awkward neck and back positions.
- Identify appropriate PPE to help reduce localized pressure on the body and unnecessary fatigue.
- Position equipment and devices such as point-of-use tool boards and rigging racks within easy reach (e.g., between the knees and shoulders) to reduce awkward postures and fatigue.
- Identify proper worker assist devices/equipment such as standing platforms or work benches that can be easily transported to the work area to reduce the amount of overhead reaching that may place stress on the body.

During the Job:

- Wear the appropriate PPE, including gloves (with anti-vibration properties), elbow, knee, and shoulder pads, and kneeling supports to reduce localized pressure on the body and reduce fatigue.
• Use material/equipment-handling wheeled devices such as **carts, hand trucks, and pallet jacks** designed to transport heavy and awkward materials, tools, or equipment. Applying the wheeled devices will reduce lifting, pushing, and pulling forces. **REMEMBER: PUSHING IS PREFERRED TO PULLING.**

• Use additional material/equipment-handling devices such as **drum movers, overhead cranes, conveyors, hoists/balancers, moveable containers, and pulley systems** to also transport heavy and awkward materials, tools, or equipment. Use of these devices also reduce lifting, pushing, and pulling forces.

• Use other material/equipment-handling devices such as **automatic hose rollers, moveable welders, synthetic lines, and blower on wheels**, as well as tools (e.g., **low vibration tools**) to reduce injury from exposure to ergonomics-related risk factors in shipyard employment.

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**Discussion Leader Talking Points**

**What This Safety Alert Covers** - This Safety Alert identifies tasks in shipyard employment that present ergonomics-related hazards and provides possible solutions for workers and employers to reduce injuries from lifting, pushing, and pulling.

**Discussion Leader Duties** - Distribute this Safety Alert to shipyard workers in a safe and secure work zone. Highlight and demonstrate key safety points, such as the importance of wearing appropriate PPE to reduce body contact stress and unnecessary fatigue.

**Discussion Leader Notes**

- Inform group that workers in shipyard employment experience a higher ergonomics-related injury rate than workers in general industry and construction.
- Ensure workers utilize proper PPE and material/handling devices to help prevent ergonomic-related injuries.
- Ensure that workers are fully trained in a manner and language they can understand.

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**DISCLAIMER**

Through OSHA’s Alliances with the American Industrial Hygiene Association, the American Society of Safety Engineers, and the Shipbuilding Group, the Alliance participants developed this Safety Alert for informational purposes only. It does not necessarily reflect the official views of OSHA or the U.S. Department of Labor.

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