



Back Injury Prevention

Back injuries at the workplace usually occur while an employee is lifting, lowering, carrying, handling, or holding any object. Back injuries are a major health problem at the workplace, and they are very costly to the industry. According to NIOSH, back injuries often cause a loss of productivity, suffering, disability, and heavy workers' compensation claims. These results can be reduced or eliminated by effective engineering controls, ergonomic design, and safety training. Back injuries must be recorded on the OSHA 200 log, regardless of severity. Conducting ergonomic task designs according to body size, state of health, general physical fitness, weight of the object, type of lifting, and length of lifting as well as using mechanical devices (conveyors, pneumatic lifts) will help prevent back injuries.



To Avoid Back Injuries:

- Conduct assessment of the workplace and workplace hazards.
- Observe employees at work.
- Have and follow an ergonomic check list.
- Evaluate workstation and tools.
- Report and record all back injuries.
- Be aware of all workplace hazards.
- Avoid reaching, bending, and twisting while lifting.
- Follow the directions for moving, carrying, and pulling objects.
- Do not lift object that weighs more than 35 pounds without help.
- To lift the object stand close to the load, squat down, get a firm grasp on the load, slowly start to straighten your legs, and keep the object close to your body.
- Implement engineering controls to eliminate hazardous motion (adjusting the height of shelf, changing the position of objects, etc.).
- Avoid poorly designed workstations.
- Use mechanical devices to move objects when possible.
- Provide thorough training and education on safe lifting and avoiding back injuries.

Work Site Review: Hazards/Safety Suggestions

Company Name: _____ Work Site Location: _____

Date: _____ Start Time: _____ Finish Time: _____ Foreman/Supervisor: _____

Employee Signatures: (continue on back of sheet if necessary)

(My signature attests and verifies my understanding of and agreement to comply with, all company safety policies and regulations, and that I have not suffered, experienced, or sustained any recent job-related injury or illness)

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Computer Ergonomics

Everyday millions of people work with computers. There is no specific workstation arrangement or posture that will be the right fit for every computer user. In general, however, the best method is to place the screen and keyboard at a comfortable height and distance, adjust the chair to a comfortable height, adjust the chair back for support, and re-adjust these components if need be. Working with a computer all day can cause eye strain, wrist aches, and can lead to poor posture and other physical problems. Though OSHA has no specific standards for computer users or workstation (existing standards are for radiation exposure hazards and electrical safety), it is important to have an ergonomically sound workstation in order to protect your health.

Tools such as back support, chair type, chair height, light at location, keyboard angle, wrist support, and the placement of documents, phones, or other frequently used items all have an effect on user comfort. The goal of computer ergonomics is to address the placement and set up of desks, computer equipment, and lighting in order to minimize stress or health hazards.

Ergonomic Practices:

- Placement of the computer and its components is important to your overall health.
- Top of the monitor must be at or below eye level.
- Do not hunch over the keyboard.
- Do not use a stool when working with a computer.
- Mouse should be placed for a straight or neutral wrist position.
- Desks should have enough space for your computer and its components as well as other work necessities (phones, documents, etc.).
- The type of chair you use and the way you sit are also important for maintaining good health.
- Elbows should be supported and close to the body, with hands and wrist in line with the forearms.
- Head and neck should be balanced and in line with the torso. Sit up straight in the chair.
- Feet should be flat on the floor.
- Support your lower back.
- Directly face your computer with no angle.
- It is helpful for your chair to be adjusted so that you are at eye level with your computer and your back is supported.



Remember, ergonomic adjustments like these will allow you to work more comfortably with your computer.

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Protecting Workers From the Hazards of Abrasive Blasting Materials

By: Paul Taulbee

Part 1 - Understanding Abrasive Blasting

Each abrasive blasting job is different. Abrasive blasting uses compressed air or water to direct a high velocity stream of an abrasive material to clean an object or surface, remove burrs, apply a texture, or prepare a surface for the application of paint or other type of coating. Blasting can be performed on sites like bridges or buildings but can also be performed in closed areas.

Employees must be trained according to the OSHA standard requirement. Employers must protect workers from hazardous dust levels and toxic metals that may be generated from both the blasting material and the underlying substrate and coatings being blasted.

Using proper personal protective equipment, respiratory equipment, administrative and engineering controls, and proper training, employees can be protected from abrasive blasting hazards. Some common hazards include exposure to chemicals and dust, heat, noise, eye damage, skin penetration, and burns.

Abrasive Blasting Materials: The decision to use a certain type of abrasive material can depend on factors such as cost, job specifications, environment, and worker health.

Commonly used abrasive materials: Silica sand (crystalline), Coal slag, Garnet sand, Nickel slag, Copper slag, Glass (beads or crushed), Steel shot, Steel grit, Specular hematite (iron ore).

Alternative, less toxic blasting materials include: Ice cubes, Dry ice, Plastic bead media, Sponge, Sodium bicarbonate (baking soda), Ground walnut shells, ground corn cob and other biodegradable materials, High pressure water.

Next week we will discuss protection methods while working with or around abrasive blasting operations. What types of abrasive blasting projects does your team encounter?



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Protecting Workers From the Hazards of Abrasive Blasting Materials Part 2

By: Paul Taulbee

Part 2 - Protecting Workers

Each abrasive blasting operation is unique, involving different surfaces, coatings, blast material, and working conditions. Before beginning work, employers should identify the hazards and assign a knowledgeable person trained to recognize hazards and with the authority to quickly take corrective action to eliminate them. Use engineering and administrative controls, personal protective equipment (PPE), including respiratory protection, and training to protect workers involved in abrasive blasting activities. Engineering controls, such as substitution, isolation, containment, and ventilation are the primary means of preventing or reducing exposures to airborne hazards during abrasive blasting operations. Administrative controls, including the use of good work and personal hygiene practices, can also reduce exposure. When engineering and administrative controls cannot keep exposures to hazardous materials below OSHA permissible exposure limits, respiratory protection must be used.

Engineering Controls

1. Substitution. Use a less toxic abrasive blasting material. Use abrasives that can be delivered with water (slurry) to reduce dust.
2. Isolation and Containment. Use barriers and curtain walls to isolate the blasting operation from other workers. Use blast rooms or blast cabinets for smaller operations. Use restricted areas for non-enclosed blasting operations. Keep coworkers away from the blaster.
3. Ventilation. Use exhaust ventilation systems in containment structures to capture dust.

Respiratory Protection - An abrasive-blasting respirator must cover the wearer's head, neck, and shoulders to protect the wearer from re-bouncing abrasive. Workers must use only respirators approved by NIOSH to provide protection from dusts produced during abrasive-blasting operations. Type CE NIOSH-certified blasting airline respirator with positive pressure blasting helmet. Support personnel involved in cleanup and other related activities may also need respiratory protection.

Personal Protective Equipment - Hearing protection, eye and face protection, helmet, leather gloves that protect to full forearm and aprons (or coveralls), safety shoes or boots.

Prior to Beginning Work - As a general rule always remember to:

- A trained and knowledgeable person must inspect blasting site for hazards and must determine corrective action.
- Do not eat, drink, or smoke in blasting areas.
- Employers must provide a wash area for workers to clean their hands before eating.
- Use HEPA filter vacuums to minimize dust.
- Manage blast time when a smaller number of workers are at the site.
- Clean and inspect equipment regularly.
- Do not conduct blasting operations in bad weather.
- Have visible warning signs at hazardous areas.
- Have an abrasive blasting safety check list.
- Manage waste materials according to OSHA requirements.
- Train all employees on abrasive blasting procedures and safety practices.



Discussion Questions

Can anyone share a story while working around abrasive blasting? If so, what was it like?

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Train. Protect. Prevent.

Respiratory Protection

Respirators are used to protect workers against oxygen deficiency (below 19.5% by volume) and against hazardous materials which can cause diseases through inhalation. This includes smoke, mist, harmful dust gases, fogs, fumes, and sprays. The primary objective is to implement engineering controls such as general and local ventilation or substitution of hazardous materials for less hazardous materials. Respirators can be used in the workplace if engineering controls are not feasible or a specific task requires the use of a respirator. Workplaces must develop and implement a written respirator program with specific procedure requirements. The employer is responsible for providing respirators to employees. Employees must be trained and educated on the use of respirators in accordance with their job procedure.

Respiratory
PROTECTION



Respirator Selection Must Include:

- Medical evaluation of employee.
- Fit test.
- Respirators must comply with all OSHA requirements.

Whenever OSHA standard or employer require use of respirator, a protection program must be in place. Respirator Procedures:

Respiratory Protection Program

1. Where and what type of respirators are required:
 - Written program.
 - Task procedure.
2. Required elements:
 - Fit test.
 - Selection procedure.
 - Training.
 - Care and maintenance.
 - Procedure for emergency use.

- Always read the instructions.
- If working around debris or airborne particles wear a full mask respirator.
- Change filters on half mask respirators frequently.
- Always replace disposable respirators with every use.
- Facial hair can limit the effectiveness of respirators.
- Whenever possible, help to reduce the concentration of airborne hazards.
- Do not use respirators unless fully trained to do so.

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