

# Eye Injury Prevention FactSheet

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Each day, an estimated 2,000 workers suffer eye injuries on the job, which not only robs many of them of their sight, but also costs employers and insurance companies millions of dollars a year. These injuries incur more than \$924 million annually in workers' compensation, and nearly \$4 billion in wage and productivity losses, according to the U.S. Bureau of Labor Statistics (BLS). No dollar figure can adequately reflect the personal toll these accidents take on the injured workers. "Yet 90 percent of all workplace eye injuries are preventable with the use of proper eyewear and safety measures," said Daniel D. Garrett, Prevent Blindness America (PBA) spokesperson.



According to the U.S. Consumer Product Safety Commission, in 2002, welding equipment contributed to more than 11,000 eye injuries treated in U.S. hospital emergency rooms, with power grinders and buffers coming in second with nearly 10,000 eye injuries. Many other tools contribute to eye injuries

if used improperly and without safety glasses. Hand and power tools such as saws, drills and sanders present a danger to eyes when precautions are not taken.

There are many steps that can be taken in industry to protect one's eyes. The first step is to assess work areas for accidents that can be caused by impact, heat, chemicals, dust, glare and optical radiation. The second is to have a good, sound safety program in place that mandates that 100 percent of employees, managers and visitors follow eye safety rules. This same principle should apply to schools with industrial design and trade courses. "The goal is for everyone to wear the right type of protective eyewear for the specific job whenever hazards are present," added Garrett.

There is not a one-size-fits-all standard for every industry, so safety managers must assess what types of safety gear to purchase. All safety glasses and goggles should be American National Standards Institute (ANSI Z87.1) certified for industrial eye protection, with the Z87 mark on the frames or lenses. In certain industries, a face shield and goggles should be absolutely mandatory to protect workers from chemical splashes, or welding light and electrical arc.

## What contributes to eye injuries at work?

- Not wearing eye protection. BLS reports that nearly three out of every five workers injured were not wearing eye protection at the time of the accident.
- Wearing the wrong kind of eye protection for the job. About 40 percent of the injured workers were wearing some form of eye protection when the accident occurred. These workers were most likely to be wearing eyeglasses with no side shields, though injuries among employees wearing full-cup or flat-fold side shields occurred, as well.

## What Causes eye injuries?

- Flying particles. BLS found that almost 70 per cent of the accidents studied resulted from flying or falling objects or sparks striking the eye. Injured workers estimated that nearly three-fifths of the objects were smaller than a pinhead. Most of the particles were said to be traveling faster than a hand-thrown object when the accident occurred.
- Contact with chemicals caused one-fifth of the injuries. Other accidents were caused by objects swinging from a fixed or attached position, like tree limbs, ropes, chains, or tools which were pulled into the eye while the worker was using them.

## Where do accidents occur most often?

Potential eye hazards can be found in nearly every industry, but BLS reported that more than 40 percent of injuries studied occurred among craft workers, like mechanics, repairers, carpenters, and plumbers. Over a third of the injured workers were operators, such as assemblers, sanders, and grinding machine operators. Laborers suffered about one-fifth of the eye injuries. Almost half the injured workers were employed in manufacturing; slightly more than 20 percent were in construction.

## How can eye injuries be prevented?

Always wear effective eye protection. OSHA standards require that employers provide workers with suitable eye protection. To be effective, the eyewear must be of the appropriate type for the hazard encountered and properly fitted. For example, the BLS survey showed that 94 percent of the injuries to workers wearing eye protection resulted from objects or chemicals going around or under

the protector. Eye protective devices should allow for air to circulate between the eye and the lens. Only 13 percent of workers injured while wearing eye protection reported breakage.

Nearly one-fifth of the injured workers with eye protection wore face shields or welding helmets, however, only six percent wore goggles, which generally offer better protection for the eyes. The best protection is afforded when goggles are worn with face shields.

Better training and education. BLS reported that most workers were hurt while doing their regular jobs. Workers injured while not wearing protective eyewear most often said they believed it was not required by the situation. Even though the vast majority of employers furnished eye protection at no cost to employees, about 40 percent of the workers received no information on where and what kind of eyewear to use.

Eye protection devices must be properly maintained. Scratched and dirty devices reduce vision, cause glare and may contribute to accidents.

## Eye protection works!

BLS reported that more than 50 percent of workers injured while wearing eye protection thought the eyewear had minimized their injuries. But nearly half the workers also felt that another type of protection could have better prevented or reduced the injuries they suffered.

It is estimated that 90 percent of eye injuries can be prevented through the use of proper protective eyewear. That is our goal and, by working together, employers, workers, and health organizations can make it happen.

Here are 10 ways that you can help prevent an eye injury in your workplace.

### 1. ASSESS!

Look carefully at plant operations. Inspect all work areas, access routes, and equipment for hazards to eyes. Study eye accident and injury reports. Identify operations and areas that present eye hazards.

### 2. TEST!

Uncorrected vision problems can cause accidents. Provide vision testing during routine employee physical exams.

### 3. PROTECT!

Select protective eyewear that is designed for the specific duty or hazard. Protective eyewear must meet the current standards from the Occupational Safety and Health Act of 1970 and later revisions.

### 4. PARTICIPATE!

Create a 100 percent mandatory program for eye protection in all operation areas of your plant. A broad program prevents more injuries and is easier to enforce than one that limits eye protection to certain departments, areas, or jobs.

### 5. FIT!

Workers need protective eyewear that fits well and is comfortable. Have eyewear fitted by an eye care professional or someone trained to do this. Provide repairs for eyewear and require each worker to be in charge of his or her own gear.

### 6. PLAN FOR AN EMERGENCY!

Set up first-aid procedures for eye injuries. Have eyewash stations that are easy to get to, especially where chemicals are used. Train workers in basic first-aid and identify those with more advanced training.

### 7. EDUCATE!

Conduct ongoing educational programs to create, keep up, and highlight the need for protective eyewear. Add eye safety to your regular employee training programs and to new employee orientation.

### 8. SUPPORT!

Management support is key to having a successful eye safety program. Management can show their support for the program by wearing protective eyewear whenever and wherever needed.

### 9. REVIEW!

Regularly review and update your accident prevention policies. Your goal should be NO eye injuries or accidents!

### 10. PUT IT IN WRITING!

Once your safety program is created, put it in writing. Display a copy of the policy in work and employee gathering areas. Include a review of the policy in new employee orientation.

Remember to practice safety. Don't learn it by accident.

Information for this fact sheet was provided by Prevent Blindness America, the Occupational Health and Safety Administration, and the Texas Department of Insurance, Division of Workers' Compensation.