

## Eye Health and Safety on the Job

Each day over 2000 North American workers have a job-related eye injury that requires medical treatment. About one third of the injuries are treated in hospital emergency departments and more than 100 of these injuries result in one or more days of lost work. The majority of these injuries result from small particles or objects striking or abrading the eye. In addition to common eye injuries, health care workers, laboratory staff, janitorial workers, animal handlers, and other workers may be at risk of acquiring infectious diseases through exposure to their eyes. In this article you will learn some of the most common eye hazards and how to protect yourself.

### Have a Safe Work Environment

One of the first steps to eye safety on the job is to be aware of what the hazards are in your particular work area or job. These considerations can help:

- Work to minimize hazards from falling or unstable debris.
- Make sure that tools work properly and safety features (machine guards) are in place.
- Ensure that workers, particularly volunteers, know how to use tools properly.
- Keep bystanders out of the hazard area.
- Know your primary hazards. If you are new to your job, ask your manager or Human Resources representative if there are any eye hazards in your work area or on your job, and what kind of training and eye protection is provided.
- Recognize hazards from nearby workers, large machinery, and falling/shifting debris. Sometimes looking at your work area or factory floor from the viewpoint of a safety inspector can be an eye opening experience.
- Always wear the right eye protection for your job and make sure it is in good repair and fits properly.
- If there are any hazards in your area or building, be sure an easily accessible station with eye wash and or sterile solutions is on site.

### Choosing Eye Protection

Although your workplace should be engineered to reduce eye injuries and to protect against ocular infection exposures, personal protective eyewear, such as goggles, face shields, safety glasses, or full-face respirators must also be used when an eye hazard exists. The eye protection chosen for specific work situations depends upon the nature and extent of the hazard, the circumstances of exposure, other protective equipment used, and personal vision needs. Eye protection should be fit to an individual or adjustable to provide appropriate coverage. It should be comfortable and allow for sufficient peripheral vision. Selection of protective eyewear appropriate for a given task should be made based on a hazard assessment of each activity, including regulatory requirements when applicable.

Here are some guidelines for choosing protective eyewear:

#### Use safety glasses for general working conditions where there may be *minor* dust, chips, or flying particles.

- Use safety glasses with side protection such as side shields or wrap-around style.
- Use safety glasses treated for anti-fog.
- Use an eyewear retainer to keep the glasses tight to the face or hanging from the neck if not in use.

#### Use goggles for higher impact protection, greater dust, chemical splash, and welding light protection

- Goggles for splash or fine dust protection should have indirect venting.
- Use direct vented goggles for less fogging when working with large particles.
- Safety goggles designed after ski type goggles with high airflow minimize fogging while providing better particle and splash protection.
- Hybrid safety glasses/goggles offer better protection than safety glasses alone.
- Safety glasses with foam or rubber around lens provide better protection from dust and flying particles than conventional safety glasses with only side shields.
- Wrap-around safety glasses that convert to goggles with a soft plastic/rubber face seal may offer better peripheral vision than conventional goggles.

**Use face shields for highest impact, full-face protection for spraying, chipping, grinding, and critical chemical or bloodborne hazards.**

- Face shields may be tinted or metal coated for heat and splatter protection.
- The curve of the face shield will direct particles or chemicals coming from the side into the eyes.
- Always wear safety glasses or goggles under a face shield.

**Prescription Safety Glasses**

- Workers who wear prescription glasses should wear tightfitting goggles over normal streetwear glasses or contact lenses.
- Goggles should also be worn over prescription safety glasses in high dust environments.
- If worn alone, prescription safety glasses must have side shields.
- Prescription safety lenses with tempered glass or acrylic plastic lenses are not suitable for high impact. These types of safety glasses should not be used when working in debris areas unless covered by goggles or face shield.
- Polycarbonate or Trivex<sup>®</sup> lenses should be used when working in high impact areas.
- New safety glasses with polycarbonate lenses should be hard-coated to reduce scratching.
- Contact lenses may present a significant corneal abrasion risk when working in dusty areas unless tightfitting goggles or a full-face respirator are worn.
- Full-face respirators will not seal properly over streetwear glasses or safety glasses. Prescription inserts compatible with a respirator should be used. Respirators should be professionally fitted.

In addition, always brush, shake, or vacuum dust and debris from hardhats, hair, forehead, or the top of the eye protection before removing protection. Beware of rubbing eyes with dirty hands or clothing. Clean eyewear regularly.

**First Aid for Eye Injuries**

Always report eye injuries immediately to your supervisor and get medical attention. Here are some guidelines for dealing with some of the more common workplace eye injuries:

**Specks in the Eye**

- Do not rub the eye.
- Use an eye wash, flush eye copiously.
- See a doctor if speck does not wash out, pain or redness continues.

**Cuts, Punctures, Objects Stuck in the Eye**

- Do not wash out the eye.
- Do not try to remove an object stuck in the eye.
- Stabilize eye with a rigid shield without pressure such as with the bottom half of a paper cup.
- **See a doctor at once.**

**Chemical Burns**

- Immediately flush eye with water or any drinkable liquid. Open the eye as wide as possible. Continue flushing for at least 15 minutes. For caustic or basic solutions continue flushing while in route to doctor.
- If a contact lens is in the eye, begin flushing over the lens immediately. Flushing may dislodge the lens.
- **See a doctor at once.**

**Blows to the Eye**

- Apply cold compress without pressure.
- Crushed ice in a plastic bag can be taped to the forehead to rest gently on the injured eye.
- See a doctor at once in cases of continued pain, reduced vision, blood in eye or discoloration which can mean internal eye damage.

**Summary**

By exercising care and common sense, and always using approved safety gear, you can keep your eyes safe and healthy.