

Eye Safety

DMME

Division of Mineral Mining

AR Training

Updated 2012

The Sad Facts

- It is estimated that eye injuries of all types occur in the U.S. at the rate of about 2000 per day.
- 90% of these injuries could be avoided with properly fitted protective eyewear.
- 10% to 20% of these injuries result in temporary or permanent vision loss.

Eye Protection?

- A Bureau of Labor Statistics survey shows that three out of five people (60%) who sustained eye injuries were not wearing eye protection.
- When asked why, personnel indicated that face protection was not normally used or practiced in their type of work, or it was not required for the type of work performed at the time of the accident.
- Many of these injuries were to bystanders.

What Are Some Of The Causes?

- The Bureau of Labor Statistics survey found that about 70% of eye injuries were caused by flying debris or falling objects, sparks and small objects striking the eye. Of these, many were moving at high speed to embed in the eye.
- Contact with Chemicals accounted for about 20% of injuries.
- Misuse of tools was a key factor: improper guards, poor maintenance, poor safety habits.

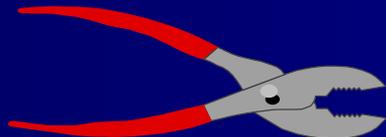
What And Where

- Construction, mining, and manufacturing have had the highest incidence of eye injuries in recent years.
- Many injuries occur with both power tools (welders, grinders, drills) and hand tools (hammers and saws).



When Should Eye Protection Be Worn?

- **4 VAC 25-40-1730.** All persons shall wear safety glasses, goggles, or face shields or other suitable protective devices when in or around an area of a mine or plant where a hazard exists which could cause injury to unprotected eyes.
- No matter where we work, flying particles, dusts, fumes, vapors or harmful rays/light are apt to expose us to potential eye injury. If the job involves chipping, sawing, grinding, sanding, welding, or working with chemicals you should wear appropriate eye protection for the job.
- Always obey company policies on wearing eye protection.



What Kind of Eye Protection?

The type of eye protection that should be worn is largely determined by the activity conducted. Consult your Foreman or Health & Safety representative for mine/site specific policies.

- **Safety Glasses** – have impact resistant lenses designed to protect you from frontal flying particles. They are much stronger than regular eyeglasses. Safety glasses can be outfitted with prescription lens. Side shields or cups can be added for additional protection.



More Kinds....

- **Safety Goggles** – also have resistant lenses and are designed to protect eyes from flying particles from the front, top, bottom, and sides. Goggles may have regular or indirect ventilation. Cover goggles are available to fit over prescription glasses or the goggles themselves can be outfitted with prescription lenses.



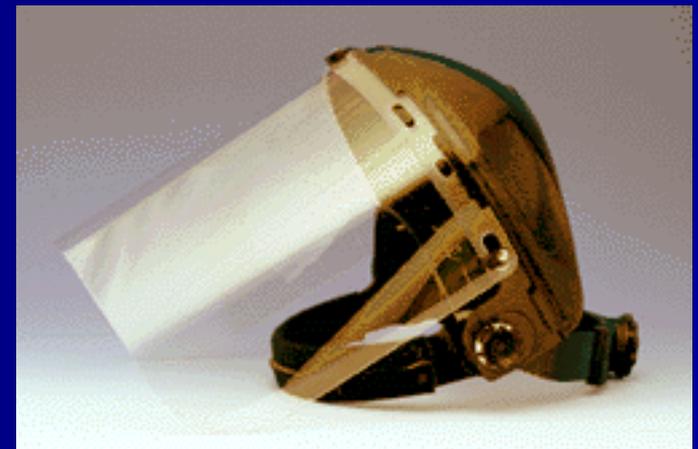
More....

- Shields – are designed to protect the eyes and face from sawing, grinding, sanding, heat and chemical work. *Shields should be worn in conjunction with other eye protection.*
- Welding helmets – are designed to protect the eyes from injurious light rays during welding. *Safety glasses should be worn underneath the helmet.*



In Case You Didn't Get It The First Time!

- Face shields are intended to protect the entire face, or portions thereof, from impact hazards such as flying fragments, objects, large chips, and particles.
- When worn alone, face shields do not protect the eyes from impact hazards. Use face shields in combination with safety spectacles or goggles for additional protection.



Eyewear Must Be Properly Fitted To Be Effective

- The BLS survey shows, of the eye injuries which occurred to workers wearing eye protection, 94% were caused by particles or chemicals striking the eye from around or under the protective shield.
- Protective equipment broke in only 1.3% of the cases.



First Aid For Eye Injuries

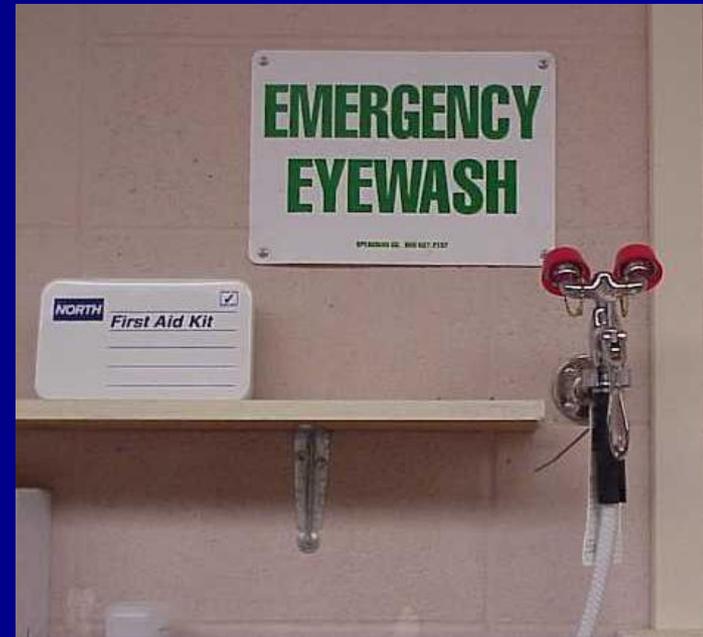
- If you get dust, a wood or metal chip or other small particle in your eye, look down and flush it out with eyewash solution from your first aid kit, an eyewash station or water from a sink.
- Do not wash an eye that has been cut in any way.
- Never rub the eye. Rubbing may drive the foreign body deeper into tissues.
- If the particle remains after flushing, and is visible, you may try to carefully brush it out with a sterile dressing.
- No attempt should be made to remove a particle lodged in the eyeball.
- If the particle remains, there is pain or there are any vision problems, cover both eyes with sterile dressings and seek medical attention.

First Aid, cont.

- If the eye is bleeding or leaking fluid, call 911 immediately.
- For a blow to the eye, put a cold pack over the eye for 15 minutes to ease pain and reduce swelling, but do not put pressure on the eye. Have the victim lie still with the uninjured eye covered to reduce movement of the injured eye. Do not remove contact lenses. If pain persists or vision is affected in any way, seek medical attention.
- Do not remove large objects embedded in the eye. Stabilize it with dressings. Cover both eyes. Call 911 immediately.

Chemicals

- If a chemical gets into the eyes, immediately flush with water for 20 minutes. Call 911.
- If only one eye is affected, position the affected eye lower than the good eye so material is not washed into it.
- The Material Safety Data sheet and container label will give other first aid instructions.
- Contact lenses must be removed as soon as possible to ensure that chemicals are not trapped behind the lenses and then the eyes can be completely rinsed of any harmful chemicals.



Using An Eye Wash Station

- Hold eyelids open using the thumb and index finger to help ensure that effective rinsing has occurred behind the eyelid.
- Water or eye solution should **NOT** be directly aimed onto the eyeball, but aimed at the base of the nose. Velocity of the stream of water must be such that injury to the eye is avoided.
- It is normal to close eyes tightly when splashed, but this will prevent water or eye solution from rinsing and washing the chemical out. Eyelids must be held open.
- Practice of this procedure is encouraged to help familiarize potential users with the feel of rinsing. It will also make it easier for the user to react both promptly and properly to an emergency situation.
- Flush eyes and eyelids with water or eye solution for 20 minutes. “Roll” eyes around to ensure full rinsing.

Eye Wash Maintenance Requirements

- The nozzles must be covered to prevent contamination and covers must automatically open when the unit is activated.
- Eye wash units should be activated weekly to verify operation and to flush lines for 3 minutes.
- Self-contained units should be activated in accordance with the manufacturer's directions.

Prevention Of Injuries

- Always wear required eye/face PPE: properly fitted safety glasses, goggles and face-shields in good condition.
- Know the chemicals that you are working with. Read the Material Safety Data Sheets (MSDS) and ask questions.
- Know the location of eye wash stations, safety showers and/or first aid kits with eye wash solution bottles.
- Know how to operate the safety equipment, you may need to use it yourself or assist others.

More Prevention Tips

- Replace cracked, pitted or damaged goggles, glasses or shields. Outdated or scratched prescription lenses can distort vision.
- Concentrate on task at hand when using power or hand tools and follow proper procedures. Remove protective eye wear only after turning off the tool. Maintain tools to manufacturer's specifications.
- Stop and relax the eyes if they are becoming strained.
- Turn containers away from the face when opening.
- Be certain that protective eye wear is approved/suitable for the hazardous environment you may be in.
- Always know, and follow, company safety rules/procedures.

Everyone Should Know When to Wear Eye Protection!!



MSHA Film

(Peabody Coal – 7:23 Min.)

Access film: <http://www.msha.gov/streaming/wvx/eyeprotect.wvx>