Welcome to the Hard Hat Training Series!

Welcome to the Hard Hat Training Series. In today's training, we will talk about eye and face safety and provide you with the knowledge and principles you will need to protect yourself and be a safer worker.

Eyes are complex. Through a system of lenses, specialized cells, and nerves, your eyes take in light and convert it into chemical impulses, which the brain then interprets into everything you see. Consequentially, any serious damage to the eye will affect how well someone can see the world, if at all.

Faces are also complicated. There are 43 muscles in the face, each playing a part in either eating, facial expressions, or speech. The face also forms a physical part of each person's social and personal identity. Because of these functions, harm to the face can have physical, emotional, and psychological effects.

Because vision and identity are important for functioning and interacting with others within and outside the workplace, proper protection is critical. However, while eye and face injuries have occurred throughout history, the modern protective equipment we use today is relatively recent.

A Brief History on Eye & Face Protection

The first modern eye protection devices were invented by Powell Johnson in 1880. His patented “Eye Protector” was designed to protect furnace men, firemen, and others from strong light. Years later in 1909, the Julius King Optical Company collaborating with American Optical developed the first safety goggles called SANIGLAS.

Image from WorthPoint

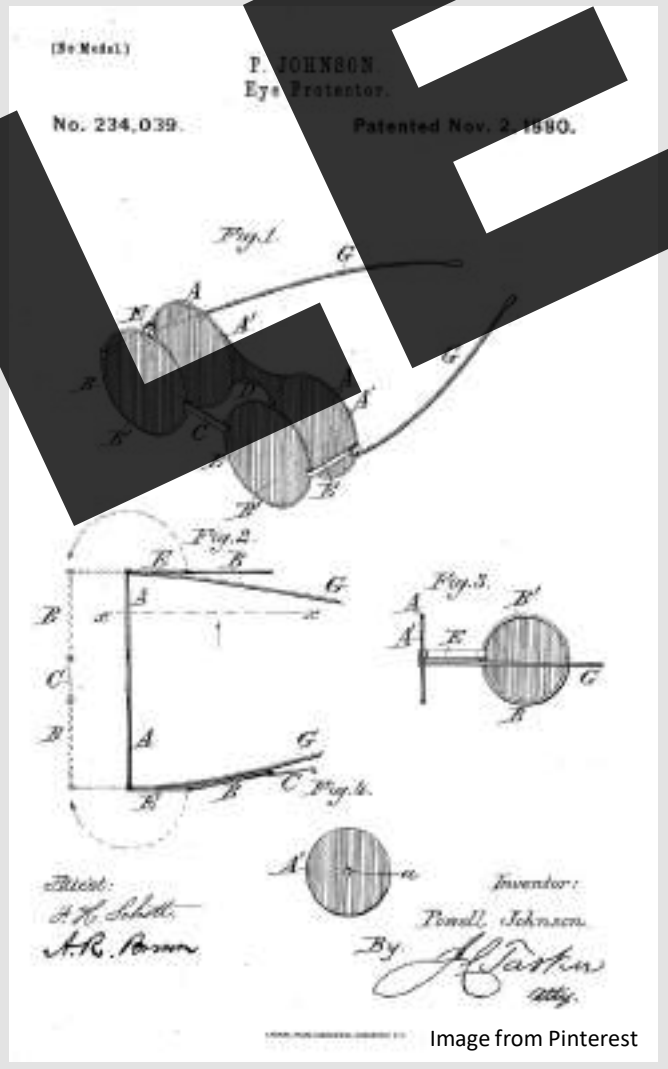


Image from Pinterest

Gas masks could be considered one of the earliest forms of modern face protection. Early versions of the mask were developed by several inventors, though credit is given to Garret Morgan who invented the Safety Hood and Smoke Protector in 1912, which included lenses made of safety glass. Morgan's invention would later undergo several modifications while used during World War I.

Image from Timeline

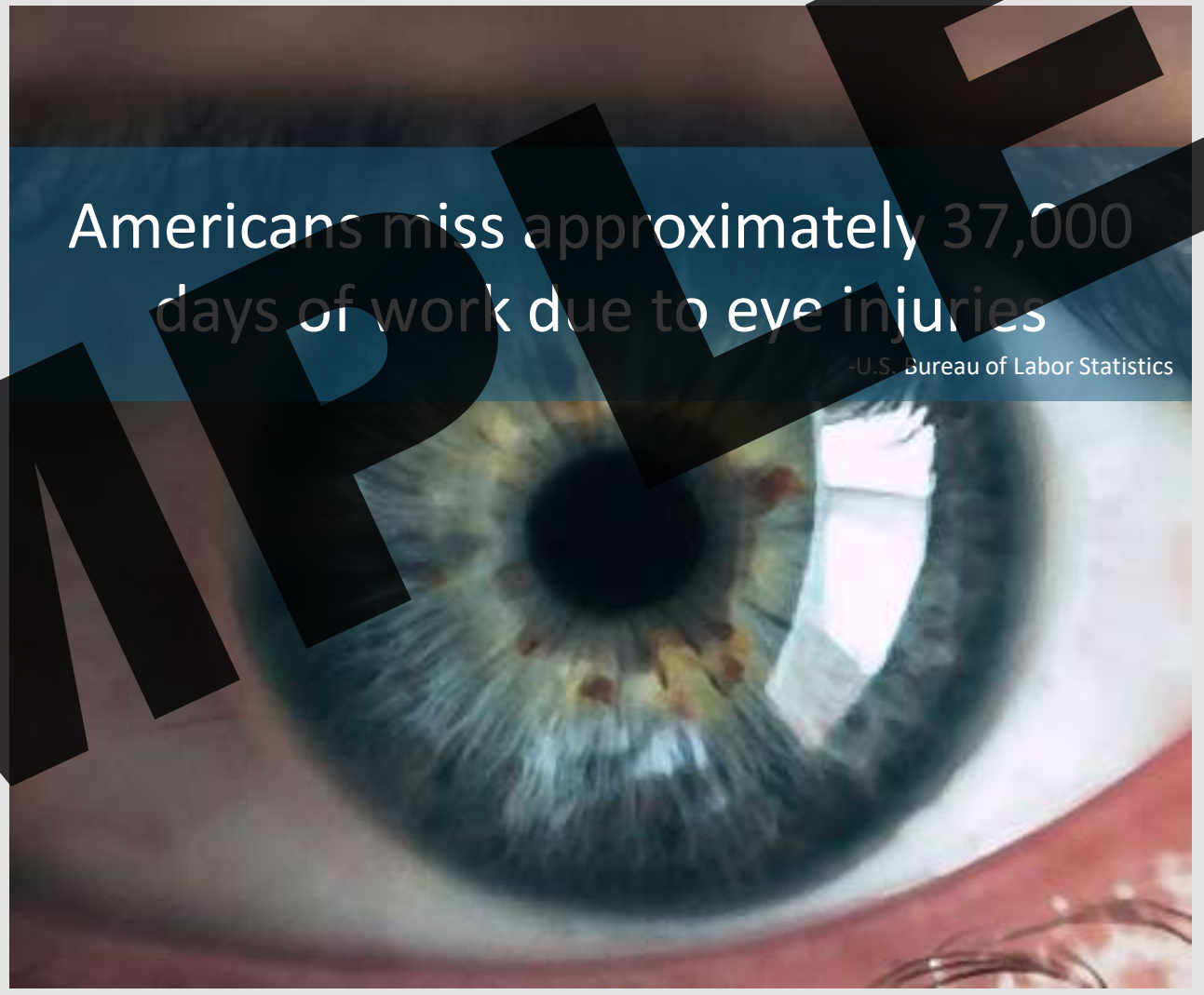
Ever since, eye and face protection has changed to keep workers safe from a variety of hazards, including minor scrapes and corneal abrasions to punctures and chemical burns. However, like any safety equipment, eye and face protection cannot protect workers if used incorrectly or not used at all. Take the following case study, for example.

A Case Study

Barry worked in a heating and plumbing facility in Alberta, Canada for some years. One day, he made sure he was wearing the necessary personal protective equipment (PPE) while neutralizing harmful chemicals but forgot to put his PPE back on when checking on the chemicals. For an unknown reason, the chemicals exploded, leaving Barry permanently blind and unable to continue working.

Image from Flickr

Unfortunately, what happened to Barry is not an isolated event. An estimated 2.4 million eye injuries occur annually in the United States, 40% of which occur in the construction, manufacturing, and mining industries. While eye and face injuries can be costly for employers, these injuries can range from inconvenient to life-altering for employees.



Did You Know?

OSHA reports that nearly $300 million in productivity is lost per year to eye injuries in the workplace.

Goal of This Training:

In today's training, we will be covering potential hazards that could affect your eyes and face. We will also discuss safe operations that will protect your eyes and face from serious harm, including PPE. Lastly, we will present a few case studies to illustrate what can happen when basic safety practices are ignored.

STANDARDS

OSHA

- 29 CFR 1910.132 – PPE General Requirements
- 29 CFR 1910.133 – Eye and Face Protection

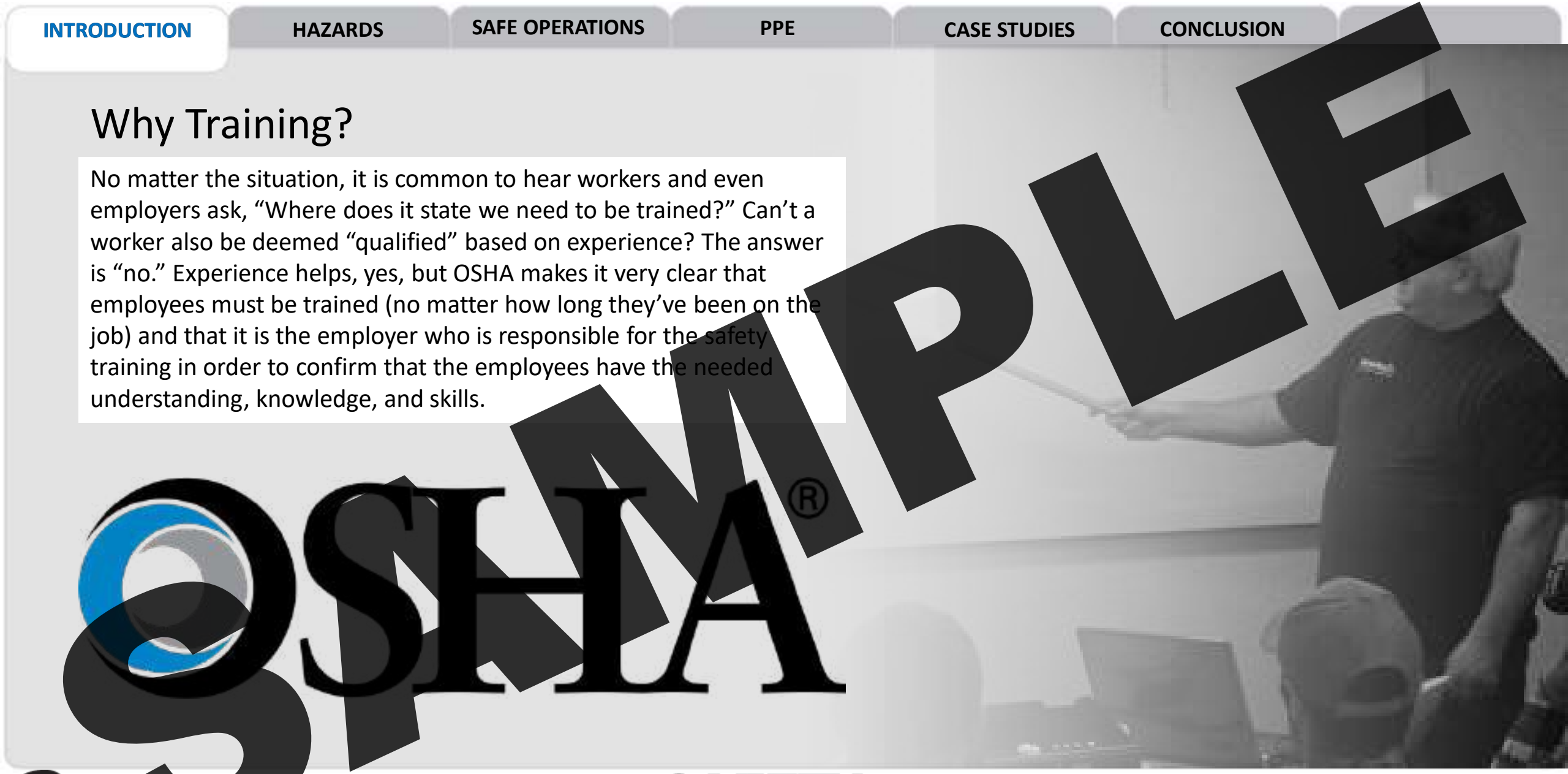
ANSI/ISEA

- Z87.1 – Eye and Face Protection

Above are some of the main standards concerning eye and face safety. Many states have additional standards, as do some industries. We have provided these as a guide, but it's your responsibility to know all federal, local, and company rules that apply to your job site.

Why Training?

No matter the situation, it is common to hear workers and even employers ask, “Where does it state we need to be trained?” Can’t a worker also be deemed “qualified” based on experience? The answer is “no.” Experience helps, yes, but OSHA makes it very clear that employees must be trained (no matter how long they’ve been on the job) and that it is the employer who is responsible for the safety training in order to confirm that the employees have the needed understanding, knowledge, and skills.



Initial training and refresher training, as well as any written and practical evaluations, must be documented and filed. At the very least, in the case of an investigation, OSHA will want to see proof of proper and consistent training (in the way of training outlines, class lists, training goals, tests, certificates, and so on.) These documents should include the name of the person who taught the class or conducted the evaluation.

Workers are required to receive refresher training when...

1. There are changes in their assigned duties.
2. There are changes regarding potential exposure to hazards for which the employees have not received training.
3. There is any deficiency noted in an employee's work performance that is related to the safety and health of themselves or other workers.
4. If an accident or anytime an employee is injured or nearly injured during operations.

NOTE: In some areas, refresher training is required at least every three years (if not sooner).

Training is not just a one-and-done occurrence; it is on-going. In fact, regulations are specific when it comes to "refresher" or "follow up" training. Training should take place whenever there is a demonstrated need for it. We have listed several instances when refresher training would be required. Can you think of any others?

The extent of training will be determined by the employer, but at the very least it should include classroom instruction followed by a written and practical examination that prove continued competency.

Common Hazards and Injuries