Protect your eyes at work

Your eyes are precious. And, depending on the type of work you do, they may also be at risk.

Every year many New Zealanders suffer an eye injury at work, necessitating time off work. Many are left with impaired vision and some are blinded.

Most of these injuries are preventable.
Everyone at risk should know:

- How to avoid being harmed; and
- What to do if an eye injury occurs.

What Causes Eye Injuries?

The majority of eye injuries are due to four general causes:

1. Being struck in the eye by flying particles and objects such as nuts, bolts, ball bearings, springs, and fragments from abrasive blasting and grinding. The missile strikes a blow that either grazes, bruises, tears or penetrates the eye. An example is a ricocheting nail which is propelled by a glancing hammer blow.

2. Striking the eye against moving or stationary objects, hand tools, etc. Such accidents happen when you blunder into the corner of an open cabinet, or stab your eye on a protruding tool or piece of equipment in your work area.

3. Eye contact with:
    - Splashes of molten metals, hot liquids, corrosive chemicals, irritant liquids, disease-causing agents. Squirts of chemicals in the eye will cause damage to the tissue, if not immediately flooded with water. Some of the most extensive corneal scars result from chemicals such as lime and concentrated acids and alkalis. These cause serious visual loss and considerable disfigurement.
    - Fumes - corrosive, irritant.
    - Dusts - organic, chemical, abrasive, corrosive.
    - Exposure to welding flash, hot substances, laser beams, infrared radiation, laser reflection.

Treating Splashes, Fumes, Dust, Particles In The Eyes

Speed is essential to prevent permanent damage to the eyes.

Immediately lay the patient on the floor and pour copious amounts of cold water gently into the eye while holding the eyelids open. (You may need help if the person's eye has been splashed by a corrosive chemical.) You can use any clean container such as a jug, teapot or bottle. Continue for 15 minutes. Get professional medical attention.

Protect your eyes at work

Note on Contact Lenses:

If the patient is wearing contact lenses, don't attempt to remove them before or during the 15-minute irrigation. Usually, the lenses will be washed out of the eye. If this doesn't occur, the lenses will slide off the pupil and migrate to the back of the eye. They may be safely left there until medical attention is available.

Treating Wounds to The Eye

If the injury is obviously major, prevent the victim from rubbing it. Cover the entire orbit with a soft dressing and get to hospital. Do not attempt to remove foreign bodies from an eye.

First Aid Facilities

Adequate first aid and emergency treatment must be available in the work area.
In workplaces where there is a risk of splashes, fumes and dust, a mains-supplied, self-activating eyewash should be standard equipment.

Dealing with Eye Hazards

Many work hazards present the risk of serious harm to the eyes. The Health and Safety in Employment Act 1992 requires employers to take all practicable steps to eliminate these hazards or to isolate the hazard from the employee.

Where this is not possible, employers must take all practicable steps to minimise the likelihood of harm to employees. They must provide suitable eye protection for employees and ensure it is used. Employees have a duty to wear the eye protection while they are exposed to the hazard. (See table below on selecting the right protection.) All eye hazard areas in places of work should be clearly signposted.

Choosing Eye Protection

This hazard protection table is designed to help you select the right protection gear for your job:

Hazard	Examples	Effects	Protection	Notes
Thrown particles	Grinding, blasting, flying objects, especially from rotary lawn mowers.	Hard fragments can penetrate and lodge within the eyeball. The commonest cause of such injuries is a chip off an object being hammered or ground. Most penetrating fragments contain iron, which will gradually destroy vision. The risk of permanent disability from eye penetration injuries is high. • One in three victims will continue to have good vision. • One in three will have some visual impairment. • One in three will end up blind.	Face shield, goggles, glasses with side shields.	Select according to factors: hot or cold particles, high speed or low, hard or soft. See AS/NZS 1337:1992 Eye protectors for industrial applications.

Protect your eyes at work

Thrown objects	Chipping operations, demolition; flying nuts, bolts and springs.	This type of injury can result in superficial injuries to the cornea, and cuts and bruises to the eyelids. In severe cases, the eyeball can be ruptured in its socket or knocked out.	High-impact face shields, goggles.	Select according to Standard above.
Splashes	Molten metals, hot or very cold liquids, corrosive liquids, chemicals, detergents	Burns from molten metals or corrosives can lead to permanent opacity of the cornea or even its perforation. Acids and alkalis produce similar appearance but alkalis penetrate faster and are more destructive to the eye. The eye becomes bloodshot, with itching, burning, pain and loss of vision.	Goggles and masks.	Ensure the goggle or mask ventilation system is splash-proof and the mask fits the face contours. See Standard above.
Dusts	Work with powdered materials, abrasives, dry organic material, chemicals, some corrosives.	Depending on specific dust involved, injury could vary in severity from mild irritation and watering to complete loss of vision or the eye itself, often from secondary infection.	Light goggles.	Close fit is important. Ensure any ventilation system is dust-proof. See Standard above.
Fumes	May be corrosive or irritant. Can be produced by hot materials, chemical reagents, smog (e.g. automobile exhaust fumes, mainly hydro-carbons).	Fumes cause profuse watering but seldom permanent corneal damage.	Goggles and masks.	Lens type governed by other hazard factors. See Standard above.