HOW CAN EYE INJURIES BE PREVENTED?
The following points should be included in any workplace assessment of the risks involved:

• Identify and record hazards by routine workplace inspections
• Assess risks such as how easily could someone be hurt
• Control those risks by elimination, isolation, or minimisation
• Install engineering controls to reduce eye injury risk as the first line of defence
• Where engineering or other controls are not possible eye protection will be necessary
• Always insist on wearing effective eye protection suitable for the situation. Refer AS/NZS 1336
• Train and educate those required to work in eye hazard situations.
• Ensure that eye protection devices are properly maintained and replaced when necessary (refer AS/NZS 1336)
• Where necessary ensure that eye safety emergency procedures and equipment is readily available

• Develop eye safety programmes in consultation with workers
• Review the policies periodically to ensure they remain relevant

Eye protection procedures
• Select only those eye protection devices that comply with a recognised standard e.g. AS/NZS 1337:1992 or ANSI Z87.1
• Ensure the eye protection is maintained in good condition
• Make sure eye protection devices are worn properly
• Have eye safety emergency procedures in place
• If necessary have eyewash equipment readily available

Safety glasses
Safety glasses, marked as complying with a standard, will have been type tested and will be suitable for use in; General working conditions where there is a low risk from dust, chips, fragments or flying particles. These safety glasses should have side protection fitted or be of the wrap around style. The use of anti-fog will prevent fogging in warm humid conditions. May need to have prescription lens fitted
**Eye/face protection**

Eye/face protection or face shields, marked as complying with a standard, will provide protection in selected circumstances;
- Highest impact, full-face protection for spraying, chipping, and critical chemical or blood borne hazards
- Always wear safety glasses or goggles under the face shield
- Face shields can 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 away from the eyes
- Available with head protection as well

**Goggles**

Goggles, marked as complying with a recognised standard, will have been type tested and provide better protection than glasses;
- Use goggles for better protection in higher impact situations, greater dust, (D) chemical splash, (C) and welding protection. (Shade)
- Goggles for splash or fine dust protection will require indirect venting. Use direct vented goggles for less fogging when working with large particles
- Safety goggles designed like ski goggles provide good protection for splash and particles with minimum fogging

**Special purpose eyewear for radiation hazards and lasers**

Tinted goggles or safety glasses are required for use where there is UV radiation such as solar radiation or sun glare.
- Use wrap around glasses or goggles marked as protecting against UV light
- Protection for laser light hazards is a specialised area requiring special advice from equipment suppliers

**Welding helmets**

Special purpose eyewear, marked as complying with a recognised standard, will provide protection against UV radiation from welding;
- Exposure to welding light can cause severe burns to the eye. Known as “flash burn” or “arc eye”.
- Lens for welding must be marked with the shade number. i.e. 1.5 – 14, where 14 = darkest shade
- Use the darkest shade possible
- Ensure that eye protection is afforded when the helmet is up protecting against hot fragments while chipping
- Available with head protection as well (see AS/NZS 1336 sec. 1.6)

**Full Face Respirators**

Full-face respirators, marked as complying with a recognised standard, will have been type tested and will protect in special circumstances requiring respiratory protection as well. (see AS/NZS 1715)
- A full-face respirator will provide the best protection in general dust, chemical, and smoke environments
- The full-face respirator will be necessary to protect against chemical vapours, liquids, or caustic dust
- The face piece must have compliant impact protection and the correct respiratory filter

**EYE SAFETY FOR PRESCRIPTION LENS WEARERS**

- Workers who wear prescription lens need special consideration when eye safety policies are developed

**FIRST AID FOR EYE INJURIES**

Knowing what to do in an eye emergency can save valuable time and possibly prevent vision loss. The following guidance on basic eye injury first aid is not a complete list
- Be prepared
- Wear eye protection, where it is required, at all times
- Establish an emergency eye safety plan in your workplace
- Do not assume that an eye injury is harmless. When in doubt seek medical advice immediately

**EYE INJURIES**

*Routine irritations such as sand or dust*
- Wash your hands before touching the eyelids to examine or to flush the eye
- Treat minor irritations by letting tears wash it out otherwise begin flushing the eye. When in doubt err on the side of caution and seek medical advice
- Do not try to remove any foreign body except by flushing
- Try lifting the upper eyelid outward and down over the lower lid
- Do not rub the eye
- Flushing can be achieved by pouring a steady stream of lake warm water over the eye. Any clean water and any clean receptacle is acceptable
- Continue to flush for 15 minutes

**Embedded foreign body**

- Call emergency medical help immediately
- Do not wash out the eye with water or any other liquid
- Do not attempt to remove the object that is stuck in the eye
- Lightly cover both eyes to prevent movement of the eyes
- Keep patient calm until help arrives
Chemical exposure:
- Immediately flush the eyes with lukewarm water.
- Hold the eye open as wide as possible while flushing. Continue for at least 15 minutes.
- Use any clean container and any clean water, as speed is the essence in saving eyesight from chemicals.
- Do not use an eyecup.
- If a contact lens is in the eye begin flushing over the lens immediately. This may wash away the lens.
- Do not bandage over the eye.
- Seek immediate medical treatment.
- Check the Safety Data Sheet to get information about the chemicals involved.

Blow to the eye:
- Apply a cold compress without any pressure on the eye.
- Crushed ice in a clean plastic bag can be rested gently on the injured eye.
- Continue with compress for 24 to 48 hours.
- If pain persists or vision is impaired seek medical advice.

EMERGENCY PLANNING FOR EYE SAFETY
Under the Health and Safety in Employment Act an employer is required to develop procedures for dealing with emergencies that may arise while employees are at work and to provide information about what to do if an emergency arises.

The following points should be noted:
- Having the proper facilities and emergency procedures in place may save a person’s eyesight.
- When a person’s eyes are accidentally exposed to a chemical panic sets in.
- Vision is immediately impaired and they cannot see where they are going.
- Assistance may not be immediately available.
- Eyewash bottles are not a good substitute for plumbed eyewash stations.
- People using chemicals must be aware of the hazards involved and how to treat an eye injury accident.

THE ESSENTIAL REQUIREMENTS OF AN EYEWASH STATION.
An eyewash station should comply with the following general principles:
- The water supply should be of potable quality.
- The control valve must be capable of being quickly located and operated hands free, and fully activated in one second or less.
- Provide flushing of both eyes simultaneously.
- There should be no sharp objects in the area.
- A controlled flow of water must be provided to both eyes at a pressure low enough not to injure the user at about 1.5 litres per minute.
- Eye/face washes will need a higher volume of 11 litres per minute.
- The water nozzles should be between 830 mm and 1140 mm from the floor.

The following attributes apply to the positioning of an eyewash station:
- It must be situated in an accessible location close to the hazard and require no longer than 10 seconds to reach (about 12 metres).
- The eyewash station shall be clearly marked with a visible sign and the area around and behind painted in a bright colour.
- Outdoor units must be protected from freezing.

THE ESSENTIAL REQUIREMENTS FOR EMERGENCY SHOWERS.
In all locations where chemicals are used, and in particular corrosive products, special provision of drench safety showers is required. Such showers should be designed to provide a quick drenching of a person affected by accidental chemical contact. The most appropriate standard for this equipment is ANSI 358.1, 2004.

For full guidelines visit the information library at www.nzSafety.co.nz.