An eye injury can have a devastating effect on a person’s social and occupational opportunities – yet the vast majority are preventable. New Australian Standard guidelines for eye and face protection are part of a wider strategy to protect workers’ eyes.

**Workplace-related eye** injuries continue to occur; indeed there were 7,655 serious claims for eye injuries in the period 2000 to 2011 in Australia.¹ It is widely accepted that 90 per cent of eye injuries are preventable.²⁻³ Improvements in the design and manufacture or eye protection has helped improve comfort and compliance. In addition, prescription eye protection standards developed in 2007⁴ ensure that those who wear spectacles are now offered the same level of eye protection as those who don’t.

**REDUCING EYE INJURIES**

Recently, a new standard was published that gives guidelines for when, where and what eye-protection strategies can be put in place to help reduce eye injuries. The latest update of *AS/NZS 1336 Eye and Face Protection – Guidelines* supersedes *AS/NZS 1336: 1997 Recommended practices for eye protection*. The title change is indicative of a broader perspective, providing guidelines for a wider range of hazards and environments.

Successful eye protection programs aim to assess and eliminate hazards, before providing the appropriate type of eye protection, which forms the last line of defence. The new standard incorporates a number of tables that help in the process of hazard identification and control. Welding screens, for example, are effective ways of ensuring passers-by are not exposed to the radiation associated with welding. Administrative controls such as rostering workers or setting up physical barriers to increase shade will help reduce exposure to ultraviolet radiation. Other key elements include vision screening of staff and referral for further testing where necessary.

“Successful eye protection programs aim to assess and eliminate hazards, before providing the appropriate type of eye protection, which forms the last line of defence”
Employers should take all reasonable steps to ensure workers are aware of the need to protect their eyes. Educational campaigns are an effective way of raising awareness and increasing compliance with eye protection. A recent report on eye injuries suffered by hotel workers cleaning beer lines highlighted the need not only for the right eye protection but also the need for instruction on appropriate procedures when an injury is sustained. In the cases reported, workers were exposed to undiluted alkali chemicals resulting in permanent vision loss in both eyes. In the cases reported, workers were exposed to undiluted alkali chemicals resulting in permanent vision loss in both eyes. Chemicals, particularly alkalis which penetrate the cornea rapidly, can have a devastating effect on vision; employers should, therefore, ensure workers exposed to these hazards are adequately protected not only with a face shield but with gloves and boots.

Young workers (<25 years-old) have been reported to be twice as likely to suffer an eye injury at work compared to older workers. Other risk factors include gender, with men experiencing up to 98 per cent of work-related eye injuries. A higher number of injuries are reported for non-English speaking workers. The vulnerability of workers known to be at higher risk should be considered when designing education programs as well as the need for regular re-enforcement of the eye safety message.

**THE RIGHT EYE PROTECTION**

When speaking with patients and customers it is important to let them know that as employers, they have a duty of care to ensure that where hazard minimisation is not possible, adequate personal protective equipment (PPE) is available and employees should be made aware of how to fit and use the PPE.

A summary of some common eye hazards and appropriate eye protection choices can be seen in the table above.

Where medium-impact protection is specified, eye protectors will incorporate lateral protection into the frame or lenses or have permanently attached side shields. Fit and coverage is critical and should be checked to ensure adequate level of protection from flying hazards.

For patients requiring spectacle correction, a number of options are available. The best option in terms of fit, comfort and coverage is custom-made prescription eye protection that complies with AS1337.6. Prescription eye protection complying with the standard will have an “R” etched onto the lens. Other solutions may include over specs, contact lenses or the use of a lens carrier behind the eye protection appropriate to the task. Contact lenses can be worn in most circumstances when accompanied by the appropriate eye protection, but should never be considered as a form of eye protection. In some industrial situations,

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**Activities/ Role** | **Suitable Eye Protection**
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Workers involved in machine cutting, grinding of metals where there are small particles at medium to high velocity | Medium-impact eye protectors, etched with an “I” or “F”. High-impact face shields, etched with a “V”.
Outdoor workers - exposed to UV light | Tinted or outdoor untinted, etched with “O”.
Horticulture, gardening, council workers eg lawn mowing, wiper snipper’s, edger’s, are exposed to flying fragments at high velocity (NB both user and spectators are at risk) | Medium-impact eye protectors, etched with an “I” or “F”. High-impact face shields, etched with a “V”. Tinted or outdoor untinted, etched with “O”.
Workers exposed to chemicals in a liquid or gas form e.g. cleaning solutions incorporating alkali | Splash resistant goggles, etched with “C”. Face shields (used in addition to goggles). Gas-resistant goggles, etched with “G”.
Workers exposed to medical and veterinary hazards eg biological splash and risk of droplet infection | Splash resistant (indirectly vented) goggles, etched with “C”. Face shields (used in addition to goggles).
Laser based surgical and cosmetic procedures where optical and thermal hazards exist e.g. laser hair removal | Refer to AS1337.4 and AS1337.5
Workers exposed to non-ionizing radiation e.g. welding, furnace work | Refer to AS/ NZS 1338.1 and AS/NZS 1338.2 or AS/NZS 1338.3

AS1336 provides guidance on a wide range of hazards, to purchase a copy please go to http://infostore.saiglobal.com/store/
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Role of Eye Health Practitioners

Optometrists, ophthalmologists, orthoptists and dispensers play an important role in preventing eye injuries. By understanding the potential hazards that their patients may be exposed to both at work and during recreation and leisure, optometrists and ophthalmologists can help ensure their patients are prescribed the right level of eye protection. Dispensers and orthoptists play a key role in ensuring the frame and lens provide adequate protection and that the gaps between the frame and the face are as small as possible. A comfortable and secure fit will help ensure protection and compliance with the eye protection program.

Regular eye examinations provide the opportunity to assess the adequateness of eye protection. Individuals should be encouraged to bring all their glasses when attending a regular eye exam so practitioners can inspect the eye protection as well as their regular spectacles. With age and accidental damage, eye protectors can deteriorate. Air-borne chemicals and commonly used substances such as sunscreen can damage the frame and lenses. It is generally recommended that eye protectors be replaced every two years, unless evaluated as satisfactory for continued use.

The new standard provides helpful guidance on many eye hazards and eye protection choices and is a valuable resource for eye care practitioners.