



Preventing blindness from eye injuries through health education



Reggie Seimon

Consultant Ophthalmologist,
Suvasevana Hospitals (Pvt) Ltd, 586
Peradeniya Road, Kandy, Sri Lanka.

Eye injuries occur without any warning. One moment a person can have perfectly normal eyes, and the next moment he or she may be blind or at least in severe pain. Therefore we should be eternally vigilant and aware of situations that could lead to injury. Eye injuries may be trivial or serious. All precautions should be taken to avoid injury. Repair of a grave injury is almost impossible, and prevention is most certainly better than cure. The role of health education is to promote awareness amongst the public about how to protect their eyes, and what to do in the case of injury.

Educational opportunities for creating 'safe eyes' awareness

1. Educate all children starting from pre-school age about objects, events and actions that can cause eye injuries.
2. Educate the mother - the first health provider in the home.
3. Create awareness regarding eye injuries at the interpersonal level, for example in one-to-one situations, never missing an opportunity to teach people about potential dangers to the eyes and what to do in case of an injury.
4. Create awareness regarding eye injuries at the group level, for example, amongst groups sharing a common occupation or activity such as welders, football players, cyclists and industrial workers. At group level one might channel messages through community health workers, teachers, sports coaches, volunteers and journalists, who themselves will need to be educated.
5. Create awareness regarding eye injuries amongst the general public through appropriate mass media such as print (e.g. newspapers), electronic media (e.g. radio and TV) and non-electronic media (e.g. street theatre, puppet shows).
6. Advocate amongst leaders and policy makers to introduce and enforce policies which will help prevent blindness from injuries, for example, legislation for health and safety at work, the wearing of car seat belts, the banning of explosive fire crackers, etc.
7. Advocate on a global level on issues such as banning anti-personnel mines.

From the educational point of view, we analyse the types of human situations or activities that put people at risk of blindness from eye injury. The list can be extensive and will vary from place to place. As a first step, it is useful to think through risks of different types of injuries in your own context.

Foreign bodies

Risk situations

Foreign body flying at high speed, for example:

- harvesting
- processing grain
- particles from a high speed grinder.

Particles splintering off, for example:

- when using a hammer on a cold chisel.

Travelling at high speed in an open vehicle, for example:

- motor cycle
- push cycle
- speed boat.

Key message for preventing eye injuries from foreign bodies

- Wear protective eyewear in all the above situations.
- Children should not stick their heads out of the window of a moving vehicle.

Multiple foreign bodies

Risk situations

- festive seasons which are often celebrated by lighting explosive firecrackers
- blasting of rock with explosives or associated with acts of terrorism
- shootings resulting in multiple shrapnel injuries.

Key message for preventing eye injuries from multiple foreign bodies

- Discourage the purchase and use of firecrackers in the home.
- Dispose of firecrackers by soaking them in water and then putting them in the rubbish bin.
- Don't let children or teenagers light explosive firecrackers.
- Protective clothing for those working with explosives.

Penetrating injuries

Risk situations

Hazards in the home and the garden, for example:

- playing with sharp objects, sticks, sharp pencils, pens, toys, scissors, metal dividers and compasses



Sri Lanka Eye Foundation

- playing with kittens close to the face
- playing with small injured birds can lead to a serious bird peck injury with iris prolapse
- leaving an infant supine on a mat in the front yard or garden exposes the baby to the risk of being pecked by the household fowl. The bright cornea attracts the bird
- playing with bow and arrows, for example, when imitating television heroes.

Travel

- road traffic accidents.

Assault

- sharp weapons
- gunshot wounds
- violent explosion.

Work place and agricultural accidents

- plucking fruits using a knife tied to a long pole/stick
- injuries from industrial machinery.

Key message for preventing eye injuries from penetrating eye injuries

- Parents and children should avoid situations that might lead to sharp objects damaging the eyes.
- Don't let children play with sharp objects.
- Manufacturers of toys should ensure that toys are as safe as possible.
- Employers should ensure at-risk workers are informed and provided with appropriate eye protection.
- Do not remove anything that is stuck in the eye; cover with a paper cup or other clean object and get help.

Burns or scalds

Risk situations

Hot substances left within reach of children, for example:

- hot soups
- boiling water
- irons.

Key messages for preventing burn eye injuries

- Keep hot liquids out of the reach of children.
- Don't leave boiling saucepans on reachable surfaces.
- Switch off irons or leave on a wall-mounted cradle out of reach of children.

Chemical burns

These often burn both eyes and parts of the face. Burnt eyelid skin scars, contracts and leads to severe exposure keratitis and loss of the eye.

Risk situations

Dangerous substances left within reach of children, for example:

- many household cleaning substances containing acids and alkalis, fungicides, weed killers and pesticides.

Accidents caused by careless use of dangerous substances

- alkali burns caused by a spray of calcium oxide/hydroxide (lime)
- acid burns occur while tampering with wet cell batteries (car batteries)
- using acids in factories.

Violent assault

- acid thrown at a face by an assailant.

Key messages for preventing chemical burn eye injuries

- Keep all weed killers, pesticides, fungicides, acids and alcohol under lock and key.
- Wear protective eyewear and clothing in high-risk industrial situations.
- Create and enforce laws to punish acid throwers.
- If a chemical splashes in the eye, immediately irrigate the eye with water and get help (page 109 for instructions on how to irrigate the eye).

Ultra violet light burns

High-risk situations

Severe burn of the cornea and face can occur with prolonged exposure to ultra violet light. Ultra violet light being at the shorter end of the spectrum cannot penetrate the cornea. Maximum damage is to the corneal epithelium. The epithelium peels off causing severe pain but re-epithelializes. For example:

- welding arc burn
- long term skiing
- gazing at UV light sources.

Key message for preventing burns from ultra violet light

- All welders to wear protective shields.
- Wear dark glasses with UV filters when exposed to bright UV light.

Solar eclipse macular burns

A self-induced cause of blindness is an eclipse burn.

Key message for preventing solar eclipse macular burns

- Solar eclipses should not be watched. However, if one needs to watch it, use special eclipse viewers or exposed camera film. If not, the most central areas of the eyes, the maculae, would be burnt by the sun.

Blunt trauma

Risk situations

Situations where an object can hit the eye, for example:

- sports of any nature but especially boxing and squash
- removing a champagne cork without adequate care
- assault.

Key message for preventing blunt eye injuries

- Teach children to be careful in the way they play with balls.
- Warn children about the dangers of rough games.
- Encourage sports men and women to wear protective eyewear when playing high-risk sports such as squash.

Lid lacerations and tears

Risk situations

Sharp nails at eye level

- longish nails and hooks fixed to doorposts

- lamp hooks hung from a rafter would tear off the entire upper lid when children in a group run around the house.

Attacks by animals

- avulsion or lacerations of the eyelids occur when children are mauled by cats or dogs
- adults suffer similar injuries when mauled by a bear or are gored by a bull.

Key message for preventing lid lacerations and tears

- Adults should take adequate care to see that no hooks and nails are left fixed at a low level.
- Supervise children when they are playing with animals.

Don't lose the sight of our children!

Eye injuries are largely preventable and occur mostly in the younger age groups. The key intervention for preventing blindness from injuries is through health promotion. Eye care workers need to collaborate with teachers, media professionals and health educators to inform the public. They also need to influence policy makers and leaders to minimise the public's exposure to risks: potentially dangerous household and industrial products should be appropriately packaged and labelled; the wearing of protective eyewear should be promoted in hazardous situations and legally enforced if necessary; and children's toys and environments should be scrutinised for potential dangers to their eyes. Since accidents will happen, education should include the message that eye injuries should be treated as a medical emergency and patients should seek help immediately. First aid at home should only be attempted if chemicals have splashed in the eye, but in all other cases, health education should warn people of the dangers of trying to treat eye injuries themselves.



Jenny Matthews/Sight Savers International