



Eye Injury Prevention

The eye is a delicate organ of our body that is susceptible to injury from many sources. In Canada we average 700 eye injuries each day that cause lost time or temporary/permanent vision loss. Most of these injuries are preventable. Eye injuries make up 40% of head injuries that cause lost time.

Parts of the eye

Pupil - black circle in the center of the iris that adjusts to the amount of available light.

Iris – colored part of the eye that limits the amount of light that can enter the eye.

Cornea – the outer cover over the pupil and iris that helps focus light.

Lens – tissue behind the iris that further enhances light.

Sclera – the white part of the eye.

Conjunctiva – thin layer that covers the white part and back of the eye.

Retina – thin layer at the back of the eye that processes visual information and sends it to the optic nerve.

Macula – Center point of the retina.

Optic nerve – goes from back of the eye to the brain and delivers visual information for the mind to process.

Common causes of eye injury

Dust, dirt, and particles blown in the air.

Chemicals being sprayed or splashed in the eyes.

Objects thrown in the air by work processes.

Tree branches and sawdust.

Solar radiation (sun).

Ultraviolet radiation from welding.

Ways to prevent eye injury

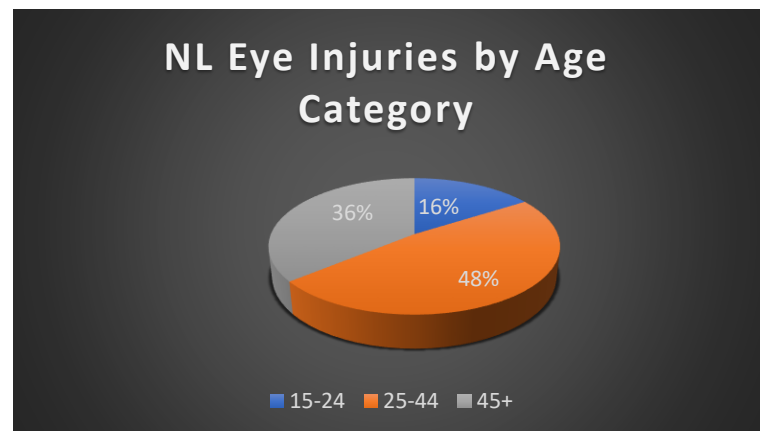
Wear appropriate eye protection based on the hazard.

Clean work area of dust and particles that can be blown around. Wet down the work area if possible.

Use dust or material collection systems.

Pay attention to wind direction when working outside.

Install guards or shields where necessary.



Working together to create a safer work environment for our forest industry.

10 Main Street Suite 202, Corner Brook, NL A2H 1B8 Phone 709-388-0374, Email dion.newman@fsanl.ca or roma.taylor@fsanl.ca

Check Out Our Website at www.nforestsafety.ca for more information.



Types of Eye Protection Available

Choosing the correct type of eye protection based upon the hazard is critically important. All eye protection should be CSA or ANSI approved.

In NL we follow the CSA Z94.3 standard for Industrial Eye and Face Protectors for safety glasses and prescription safety glasses. Prescription lenses made of treated safety glass must meet the requirements of ANSI Standard Z87.1 "Practice for Occupational and Educational Eye and Face Protections".



This is the regular safety glasses that we see being used in a lot of workplaces. They protect from objects coming towards the front of the glasses. They do not provide protection from the sides, top or bottom or from chemical/liquids.



Safety glasses with side protection protects the eyes from objects coming from the front or side.



Goggles with indirect vents fit snug around the eyes and have vents angled away from the workers eyes which makes it harder for contaminants to encounter a worker's eyes. They are recommended for use around fine particles, chemicals, and liquids. They do not have as good of an airflow as direct vent goggles.



Goggles with direct vents fit snug around the eyes and works well in areas with a lot of particles in the air. They are not recommended for use around chemicals, liquids, or very fine particles.



Face shields protect the eyes and face from flying debris, splashes from liquid/chemicals. Workers need to still wear eye protection while wearing the face shield.



Forestry face shields protect workers from flying debris and branches as they work in the woods. The screens provide protection from larger debris and safety glasses or goggles must be worn to provide proper eye protection.



Welding shields protect workers from intense radiant light as well as molten metal and debris from the welding process. Please ensure to determine the correct level of protection required based upon the cutting welding activity.

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How do we select the proper eye protection for the job?

The first thing we need to do is determine the hazards we can be presented with. This is something that people have a habit of rushing through without doing a proper hazard assessment.

What can I be exposed to?

Dust/dirt

Flying debris

Projectiles from machinery/work processes

Chemicals

Liquids

Radiation

Hot metal



The next step is to determine is what type of CSA/ANSI eye protection equipment is required? Is it on site or do we need to go get it?

When we choose our eye protection, we need to take also consider the following:

Protection – Does this choice adequately protect me from all possible hazards? Does it create another hazard?

Comfort – Is this comfortable to wear? Do I need to keep adjusting or taking it off? Is my peripheral vision hampered? Is it sturdy enough to be worn in this application? Does it protect me from UV rays? Do I need to keep cleaning them because they are fogged up?

Aesthetics – How do they look? Are they big and bulky or streamlined and light weight?

Cost – The price of some eye protection can be expensive. Do not go with a lesser level of protection because of the cost. You will pay for it in the long run!

Now that we have selected the appropriate eye protection, we need to properly care for it. Make sure you clean your eye protection as required. Use a lens cleaner and refrain from using household products. They can damage your lenses. Store it in a clean dry place and do not put them in a holder or container that is exposed to vibration (cargo compartment on machinery). It damages the lenses.

Always inspect your eye protection before use. If it is damaged it needs to be replaced. Damaged equipment can fail when you need it the most. Do not take off eye protection for jobs that do not require it as we tend to forget to put it back on before changing our tasks.

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How do we identify and treat eye injuries?

Eye injuries create an extreme level of anxiety for the injured person. If we think our sight has been damaged in any way stress levels increase dramatically and the casualty can become difficult to help. It is important for everyone to remain calm, assess the situation and give the appropriate response. Cuts to the eyelids bleed profusely and will cause panic. Sometimes it can be difficult to determine there is an eye injury based upon the situation.

Signs and Symptoms of an Eye Injury

Pain in the eye, trouble opening the eye, or difficulty seeing.

Blood in the white part (Sclera) of the eye.

Damaged eyelid.

Embedded object.

Object stuck to the eye.

Both eyes not moving the same.

Redness of the eye.

Something under the eyelid.

Unusual pupil shape or size.

Eye is bulging.

Inspection

To check for an object, have casualty sit down, pull out bottom eyelid and have them look up. Do the same for the upper lid and have them look down. You can also shine a light across the eye to cast a shadow to identify where the particle is located.

Treatment

The eye is a very delicate organ, and any injury should be assessed by a doctor. Even when we think its minor we may have scratched or damaged the eye.

Do not rub or apply pressure to the eye.

Contact with chemicals require 15 minutes of continuous flushing with clean water.

Never try to remove an embedded or object stuck on the eye.

If particle is not stuck to the eye, we can use a tissue to gently remove it.

Never touch the colored (Iris) part of the eye.

Never administer medication or ointments to the eye.

Place loose padding over the eye if required and transfer to the medical help.

Top 10 Reasons for Eye Injury in NL 2015-2019

24.0 % Metal chips, particles

12.9% Scrap, waste, debris

10.5% Dirt particles

3.8% Bodily fluids or substances of person

3.5% Chips, particles, splinters

2.2% Cleaning and polishing agents

2.0% Chemicals and chemical products

1.8% Branches, limbs

1.5% Welding and heating hand tools-powered

1.5% Wood Chips, sawdust



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Can my overall health affect my eyesight?

Absolutely! We know as we age our eyesight changes and a lot of us require contact lenses or glasses. When we consider eye damage we readily think about foreign objects, chemicals etc. A lot of people do not consider age, heredity, diabetes, obesity, high blood pressure or genetic defects. If we have any issues with our vision, we are encouraged to see a doctor or ophthalmologist to properly care for our vision.



Diabetic Retinopathy – High blood sugars for long periods can damage the blood vessels of the retina and usually happens in both eyes. Symptoms include, spots or floaters, blurry vision, decreased color vision, and vision loss. If left untreated it can cause bleeding of the eye, retinal damage, glaucoma and even blindness.

Glaucoma – Is damage to the optic nerve caused by pressure to the eye brought on by diabetes and aging, eye injury and heredity. Glaucoma left untreated can result in blindness. Symptoms of glaucoma include eye pain, blurry vision, eye redness, bad headache, sudden change in vision, nausea/vomiting, seeing halos around lighting. If caught early medical attention can reduce the effects of glaucoma.



Macular Degeneration – Is caused by aging and causes the center of the retina to deteriorate leaving people with blind spots in their field of view and blurred vision. Heredity, age, obesity, smoking and high blood pressure contribute to macular degeneration. There are two different forms. The wet form causes blindness quickly. Blood vessels allow blood to flow into the eye causing blindness. The dry form causes loss of sight at a slower rate. Waste from the cells build up on the retina. Symptoms include distortion of vision, blind spots, need for more light to see, increasing sensitivity to glare, decline in vision.

Cataracts – The clear lens in our eye becomes cloudy as we age. Symptoms of cataracts are Gradual decrease in vision, your glasses will not correct any vision changes, blurry vision, seeing double, poor night vision and loss of color distinction. Usually corrected by surgery. To lessen the development of cataracts do not smoke, manage diabetes, avoid eye injuries, and limit UV exposure.



If you have any concern about your eyesight do not hesitate to see an ophthalmologist. Once you lose your sight it you may not be able to get it back again.

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