

Information on Visual Impairments

PSIA-RM-AASI Adaptive Snowboard 2012-13

The information in this document is provided only as a guideline. Although every effort has been made in preparing and assembling this guideline, with a goal of providing timely, complete, and accurate information, PSIA-RM makes no claims, promises, or guarantees about the timeliness, accuracy, completeness, or adequacy of the contents of this guideline, and PSIA-RM assumes no liability or responsibility and expressly disclaims liability for any errors and omissions in its contents

Local and program regulations and safety guidelines take precedence over this information. It is in your best interest to exercise due diligence in determining the appropriateness of the information for your particular circumstances. In addition, please take into account any and all factors that may affect your lesson. This includes but is not limited to: the health, well-being and fitness of the student; weather conditions; terrain; other people on the slope; your own abilities, as well as those of your student and anyone who may accompany you.

Factors in Vision Loss:

More information is gained in a shorter period of time through the eyes than any other single sensory organ.

Typically, incidental learning occurs constantly but is interrupted with the loss of vision.

Developmental delays caused by vision loss:

- Mobility
- Self-care
- Communication
- Cognition
- Fine motor
- Social skills

Most people with vision loss have some vision. Hundreds of eye disorders cause varying amounts of vision loss

Six areas of vision problems:

Acuity loss - the decreased ability of the eyes to distinguish object details and shape. A person doesn't see clearly or objects are blurry.

Field loss – The reduction of space visible to the eyes when they are fixating straight ahead. Normal eye can see 160-180 degrees around it. A field loss is anything that reduces or interferes with this normal field.

Field and Acuity loss – With this loss, both field and acuity are affected.

Loss of Contrast Sensitivity – The ability to tell things apart that are almost the same color. Discerning between lightness and darkness, everything appears washed out, somewhat like viewing a faded photograph.

Information on Visual Impairments

PSIA-RM-AASI Adaptive Snowboard 2012-13

Processing Problem – Some people see poorly because their brain is not processing the visual information sent to it from the eye through the optic nerve. With this loss, damage to the posterior visual pathway and/or visual center results in impaired visual processing and functioning. Visual cortex is where the visual info should be processed. Cortical visual impairment (CVI) is when info from the eye does not pass correctly along the optic pathways. Damage to optic nerve(s) or the visual cortex could be the problem. CVI can be mild or severe depending upon where the damage is located. CVI can occur in premature infants, those with brain bleeds, or those who have brain damage for various reasons. Many infants with CVI start out as if they are blind. Those with milder degrees of CVI may develop vision in the periphery and eventually develop central vision. Also, with CVI visual functioning may vary from day to day. For some individuals other areas of the brain with less damage may begin to process some of the visual information causing scattered spots of vision. The vision may or may not grow with time. If it does, this change could be rapid or slow.

Oculomotor Problems – Difficulty looking at and following the movement of objects and people, because the eyes do not work together in a well-coordinated manner. For example, one eye may turn in or out, the eyes may cross, or one eye may become “lazy” resulting in amblyopia. Depth perception may be affected which could complicate walking on stairs, curbs, and uneven terrain.

Visual Diagnoses:

Amblyopia – When eyes are not straight (strabismus), the brain ignores the image from the weaker eye, and it becomes a “lazy eye.” Vision in this eye is not developed (poor acuity, depth perception, field loss). To force the child to use the weaker eye, patching or glasses may be used, or surgery may be needed to straighten the eyes.

Cataracts – The lens of the eye appears cloudy or opaque, and it is usually removed (aphakai) to give a clear visual axis and to restore useful vision. This leaves the person with a loss of refraction and accommodative ability in the eye.

Adaptations: glasses, contact lenses, intraocular lens implantations, enlarged materials, and reduced glare.

Cortical Visual Impairment (CVI) or Cerebral Visual Impairment – CVI is a temporary or permanent visual impairment caused by damage to or a disturbance of the visual cortex (the visual processing part of the brain) and/or other posterior visual pathways of the brain. The eyes may function normally, but the visual systems of the brain do not consistently understand or interpret what the eyes see. May be caused by a brain injury.

Diabetic Retinopathy – Juvenile and maturity onset diabetes can cause changes in the blood vessels, resulting in hemorrhaging in the retina and vitreous. This, in turn, can cause retinal detachment and blindness. These individuals may be sensitive to glare, experience double vision, lack accommodation, have fluctuating acuity, and experience diminished color vision.

Information on Visual Impairments

PSIA-RM-AASI Adaptive Snowboard 2012-13

Glaucoma – A group of diseases characterized by increased intraocular pressure associated with the buildup of aqueous fluid. This results in damage to the optic nerve and retinal fibers. The effects on vision include photophobia, field and/or acuity loss, and poor night vision. Total blindness can result if the pressure is not controlled. Treatment is surgery and/or eye drops.

Macular Degeneration – A hereditary condition in which the cones in the central part of the retina degenerate. The effects include loss of central vision (peripheral vision is normal), light sensitivity, and poor color vision.

Adaptations: eccentric viewing, enlarged materials, close proximity to things, telescopes for distance vision, sunglasses, non-glare lighting, high contrast, and rest periods.

Nystagmus (congenital) – A rhythmic uncontrolled movement of the eyes (back/forth, up/down, rotary), which is a neurological manifestation of poor vision. The person may find a head or eye position (null point), which diminishes the intensity of the movement, except when tired and stressed. The effects include poor depth perception and hand-eye coordination, blurred vision, and fatigue.

Retinal Detachment – Parts of the retina will pull away from the supporting structure of the eye and then atrophy or die off. This is caused by high myopia, diabetes, a blow to the head, or trauma. As a result, there may be field loss, blurred vision, blind spots, and a loss of central vision. It can be repaired with a laser if done soon after it occurs. Adaptations: contact sports should be avoided.

Retinitis Pigmentosa – A progressive hereditary disorder that causes degeneration of the cells in the periphery of the retina. The effects include loss of peripheral vision, problems with night vision, and a decrease in acuity over time.

Adaptations: good illumination, no glare, infrared viewing devices for night, prism glasses to increase visual fields, large print with bold lines, and contrast.

Strabismus (Exotropia, Esotropia, Hypotropia, Hypertropia) – Unequal strength of the six extraocular eye muscles, causing an imbalance in the eyes (eyes cross, one turns in/out, up/down). It affects binocular vision, depth perception and hand-eye coordination, and causes difficulty in following fast moving objects, tracking, fixating, and scanning. It may be treated by patching the better eye, medication, glasses, and surgery.

Information on Visual Impairments

PSIA-RM-AASI Adaptive Snowboard 2012-13

Some Do's and Don'ts:

For those individuals with Decreased or Loss of Vision

Do be sure to vocally introduce yourself to a person with vision loss. / Don't reach out to touch someone you don't know or who is unaware of your presence.

Do ask a person with blindness or low vision about their diagnoses and any special vision needs that they may have such as large print forms, magnifiers with which to read, blackout goggles, wrap around sunglasses, eyewear with specially colored lenses, or preferred types of lighting. Be sure to ask about hearing needs.

Don't assume that each person with the same vision diagnoses needs/desires the same type of visual or auditory assists.

Do ask a person with blindness or low vision about their mobility preferences (guiding systems) and how you may assist them. / Don't assume that someone needs your help, ask first.

Do offer an elbow or your shoulder when guiding a person with blindness. / Don't take a person by their hand. It is disrespectful and does not offer as much information about body and object orientation when walking.

Do ask to be introduced to a person's guide dog and offer to show the owner where available kennels are located for dog placement during ski/snowboard time. / Don't pet a guide dog while it is in harness. The harness means it is working and should not be distracted. All service animals, for their safety and that of other resort guests and staff, should be kenneled while their owners are on the slopes.

Do be sure to acknowledge guests with blindness or low vision when you are near them as you enter or exit a room. / Don't feel that you need to constantly engage people in conversation when passing through a room or while riding on a chairlift.

Do get to know them before you start assessments. Need to gain their trust first.