



**National Athletic Trainers Association (NATA)
Vision Screening Protocols
August 2011**

Case History¹

A	Have you ever had an eye exam by an eye doctor? ➤ If yes, when was your last eye exam? _____	<input type="radio"/> Yes	<input type="radio"/> No
B	Do you wear glasses? ➤ If yes, when are they used? <input type="radio"/> Reading <input type="radio"/> Driving <input type="radio"/> Both ➤ Do you wear your glasses for sports? <input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No
C	Do you wear contact lenses? ➤ If yes, what type of contact lens? <input type="radio"/> Soft <input type="radio"/> Rigid ➤ Do you wear contact lenses for sports? <input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No
D	Have you ever participated in a vision training program? ➤ If yes, when and where: _____	<input type="radio"/> Yes	<input type="radio"/> No
E	Have you ever had a head injury (concussion), or an injury, surgery, infection or disease involving your eyes? ➤ If yes, please describe: _____	<input type="radio"/> Yes	<input type="radio"/> No
F	Are you experiencing any visual difficulties? ➤ If yes, please describe: _____	<input type="radio"/> Yes	<input type="radio"/> No
G	Does your performance level vary during competition?	<input type="radio"/> Yes	<input type="radio"/> No
H	Is your performance inconsistent during critical (pressure) competition situations?	<input type="radio"/> Yes	<input type="radio"/> No
I	Do you experience loss of concentration during events? ➤ If yes, please describe: _____	<input type="radio"/> Yes	<input type="radio"/> No
J	Do you use visualization/imagery techniques? ➤ If yes, please describe: _____	<input type="radio"/> Yes	<input type="radio"/> No

Visual Acuity²

The Snellen chart is acceptable. We prefer a LagMar chart (a style of chart that only has five characters per line and induces a “crowding” effect as the letters get smaller). The result of this test will give you the athlete’s “clarity” of sight for a static, black on white target.

Test Distance: 20 feet (or whatever test distance is appropriate for the chart you have)

Illumination: Standard illumination

Position: Standing relaxed



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Critical Factors: Sequence for testing is right eye followed by left eye, then both together.

Criterion: Consider referring if the athlete is unable to attain 20/20 vision

Instructional Set: “Please cover your left eye and call out the lowest line of letters you can see without squinting. Guess if you have too.” Repeat this with the right eye covered and both eyes open.

Record: Record best visual acuity as the smallest line where the athlete gave >50 percent correct.

Peripheral Vision

This is a modified version of the standard confrontational visual fields done at many eye doctor offices. This will assess the athlete’s ability to detect details in their peripheral (side) vision.

Test Distance: Examiner should set up at eye level approximately 80 cm from the athlete. They will place their hands in the middle between them and the athlete (approx. 40 cm from each).

The examiner will ask the athlete to cover their left eye, and the examiner will close their own right eye. The examiner will then hold one, two, or five fingers to the side of the athlete. The athlete is asked to call out how many fingers are being held up.

The examiner should hold up fingers at the 12, 3, 6, and 9 o’clock positions. The displayed fingers should be at the extent of the examiner’s visual field, yet still recognizable. In other words, you are your own control. If the athlete looks at the fingers, the examiner should change the amount they are displaying

This should then be repeated with the athlete’s right eye closed and the examiner’s left eye closed.

Illumination: Standard illumination.

Position: Standing or sitting relaxed.

Critical Factors: Both the examiner and the athlete must close one eye. In addition, the athlete must maintain fixation on the examiner and not be allowed to look around.

Criterion: Consider referring if the athlete is unable to see your fingers off to their sides.

Instructional Set: “Please cover your left eye and keep looking at my nose. I will show you some fingers off to your side vision and I want you to call out how many fingers I am holding up. Please be sure to keep your left eye covered/closed and keep looking at my nose.”

Perform the same for the left eye.



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Record: Record whether the athlete could see all of the presentations. If the athlete saw all presentations, they would have full to finger count right eye and left eye. You would record this as: confrontational visual fields (CVF): full to finger count (FTFC); right eye (RE) and left eye (LE).

If the athlete had decreased visual field in certain presentations, then record where it is decreased: decreased visual field (VF) on patient's left side of right eye.

Depth Perception

Sports Vision experts prefer to test an athlete's depth perception (or stereoacuity) with a distance test, such as the Howard-Dolman. However, there is some correlation between near depth and distance. A quick screening technique is a near stereo test. Examples of near stereo tests are the Stereo Fly, Randot Stereotest[®], Stereo Butterfly, and more. These screenings test depth perception with different patterns (circles, animals, shapes).

Regardless of which test you decide on, all of these are easy and quick screening tests. These check the ability for both eyes to work together. We expect athletes to achieve 40 arc seconds, at the very least (for this test, lower is better). If an athlete is unable to appreciate the depth or struggles, please send them to an eye doctor.

Contrast Sensitivity

In order to perform contrast sensitivity assessments, you will need to purchase this equipment. The manufacturer should have protocols that you should follow. In general, you want to refer somebody who is not able to observe obvious contrast sensitivity patterns.

Pupils²

Equipment: A distance target (ex. letter on the VA chart); transilluminator or penlight

Set-up: The athlete is standing with his/her eyes directed at a fixation target 20 feet across the room.

Instructions: Explain to the athlete that you are assessing how well his/her eyes react to light. Instruct the athlete to keep fixation on the distant target while you shine the transilluminator in his/her eyes.

Procedure: Shine the light into the right eye, without interfering with the athlete's visual axis, and observe the size of the pupil and the speed of the constriction in the right eye for three cycles. This is the direct response of the right eye.



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Continue to shine the light in the right eye, while observing the pupil of the left eye for three cycles. This is the consensual response of the left eye. Shine the light into the left eye and observe the direct response of the left eye for three cycles and the consensual response of the right eye for three cycles.

Check the athlete's pupils for an afferent pupillary defect (APD) by moving the light alternately between both eyes rapidly, while sustaining a period of four seconds per eye. Observe the responses of the eyes as the light moves to each of them. Be sure to indicate for each eye whether or not constriction occurs (normal) or if an initial dilation occurs (abnormal) as the light shines on the eye.

Recording: Record the relative appearance of the pupils, pupils equal round, if the pupils were responsive to light (RL), and if an APD is present or not (- or + APD). Be sure to record any difference in size or shape between the two pupils.

Referral Criteria: Any abnormal response including diminished light response, presence of an APD, or differences between size and shape.

Check-out the Pupil Response Simulator for some practice:

<http://cim.ucdavis.edu/EyeRelease/Interface/TopFrame.htm>

References

1. *Case History: Provided by Dr. Fred Edmunds.*
2. *Visual Acuity: Adapted from 2009 AAU Junior Olympics Vision Evaluation Protocols.*
3. *Pupils: Adapted from 2009 AAU Junior Olympics Vision Evaluation Protocols.*