AAPITA

EYE ON THE BALL

Your Eyes And The Sun

Here's a quick science lesson before we get into the good stuff. The sun gives off different types of radiation, including visible light/sunlight and invisible radiation known as ultraviolet radiation, or 'UV'. UV is not warm; you can't see or feel it. We know that UVA and UVB rays are harmful to the skin (see the topic, "Play Safe In The Sun") but UV can also have a disastrous effect on the eyes.

Eye damage can include:

- Cataracts: a gradual clouding of the lens of the eye that leads to loss of vision.
- Macular Degeneration: loss of the retinal cells in the center of the eye that are responsible for sharp vision and color vision.
- Skin Cancer: of the eyelids and areas around the eye.
- Photokeratitis: painful stubborn sunburn of the eye surface (cornea), also called "snow blindness."
- Cataracts and macular degeneration have now been proven to correlate with the level of sun exposure during one's life.

Eye disorders in players are caused by UV exposure and chronic eye irritation from dry, dusty conditions:

- Pterygium: a fleshy tissue growth that can overgrow the cornea and decrease vision. These can be removed with surgery. The chance of them returning with increased damage is high; at least 1 month of rest is needed, with no sun and sunglasses MUST be worn to decrease the risk of recurrence. Wearing 100% UVA and UVB protective sunglasses decreases the chance of accelerated growth onto the cornea.
- Pinguecula: a yellowish patch on the white of the eye, on the side nearest the nose; does not affect vision, but a pinguecula can develop into a pterygium.

Sunglasses - The Facts

The two components of sunglasses (frames and lenses) come in an array of choices. Here is the information you need to make the choice that is right for you:

Frames

- Today's frames incorporate high-performance technology, are lightweight, impact resistant, and come in many types of materials.
- For the best fit, frames should cover the entire eye socket, fit close to the face, and come with padding and non-slip components at the temple/bridge of the nose. Look for non-slip technology that increases grip with increased perspiration.
- Elasticized bands work best to hold the frames in place. Make sure the frames allow you to see out the side (peripheral vision). Wrap-around frames offer almost complete UV protection, whereas regular frames still allow 5% UV to reach the eyes. Nylon and plastic are lightweight and are the most common sports frames. Metal can also work well.

Lenses

- Today's lenses incorporate technology to improve clarity and depth perception, all while providing protection from the sun, dust, and flying objects.
- If you wear prescription glasses, make sure that you get prescription sunglasses. Some wrap-around frames do not work with prescription lenses, and you may be more limited in frame selection.

Things to look for:

- Sharp optical quality to reduce eye strain.
- Polycarbonate and Trivex lenses are created from impact-resistant material. These two types of lenses are incredibly strong and will assist in protecting your eye from traumatic injury if a direct impact were to occur.
- Lenses that do not mist over due to ventilation systems or Anti-Fog lenses.
- Lens coating to minimize fine scratches.
- Interchangeable lenses with varied percentages of visible light transmission (VLT). VLT is low in bright sunshine and high on a cloudy day.

Made For The Shade

When picking a pair of sunglasses, the right combination can make you a winner: in performance, protection from the sun, and fashion! Look for these features when choosing sunglasses for tennis:

Ultraviolet Ray (UV) Protection
- This is a MUST for anyone that spends time outdoors.
- Wear sunglasses with high UV protection to block out 99-100% of UVA and UVB rays. Most quality lenses do offer significant reduction of both UVA and UVB.
- Check the UV protection information on the label before buying sunglasses. You can also ask a qualified optician to accurately evaluate the UV protection of your glasses.
- Research suggests that long-term exposure to High Energy Visible (HEV) Radiation "Blue Light" is linked to macular degeneration. Look for "blue blocker" sunglasses.
- Glasses with poor light filtration may cause more problems than not wearing any protection because they may allow the pupil to dilate and a player to stay on the court longer, both of which can lead to a greater amount of UV light which negatively affects eye health.

Tint
- Tinting stops you from squinting and can enhance visual clarity.
- The goal of tinting is to add high contrast to improve visual detail.

  - Yellow or orange: brings out shadows, heightens contrast in low-light conditions, and filters blue light (HEV) for sharper focus. Specific to tennis, this tint will highlight the color of the ball.
  - Amber rose, or red: heightens contrast in partly cloudy and sunny conditions, allows for better depth perception, but creates color distortion.
  - Dark amber, copper, or brown: blocks high amounts of blue light to heighten contrast and visual acuity, particularly on grass.
  - Green: transmits all colors evenly and dims glare while brightening shadows.

  - Gray: true color perception, reduces brightness & glare for very sunny conditions, and reduces red-eye fatigue.
- Ask a health care provider for more information on companies that make tinted lenses ideal for tennis.

Glare-Free Lenses
- These are a cosmetic choice in corrective eyewear; the coating makes the lens look thinner, and reduces the glare or reflection caused by a thick lens.
- In sunglasses, these "glare-free" lenses, help to decrease glare by decreasing the reflection of light that enters from behind the sunglasses wearer and bounces off the lens into their eyes.
- Coatings to reduce glare are best applied to the back surface of sunglasses (the surface nearest the eye).

Polarization
- Reduces or stops the reflective glare off of surfaces such as a tennis court and the stands. Polarization provides excellent visual comfort in a variety of environmental conditions.
- Polarization changes the color of the lens but it does NOT protect the wearer from UV radiation.

Sports Vision

Seeing 20/20 or better isn't the only measure of good vision. you may focus well on stationary objects, but your vision isn't just one skill, it's a set of several skills that include: having a clear vision while moving (dynamic visual acuity), being able to keep the ball in sharp focus as it moves towards or away from you (focus flexibility) and the ability to see details from a distance (contrast sensitivity).
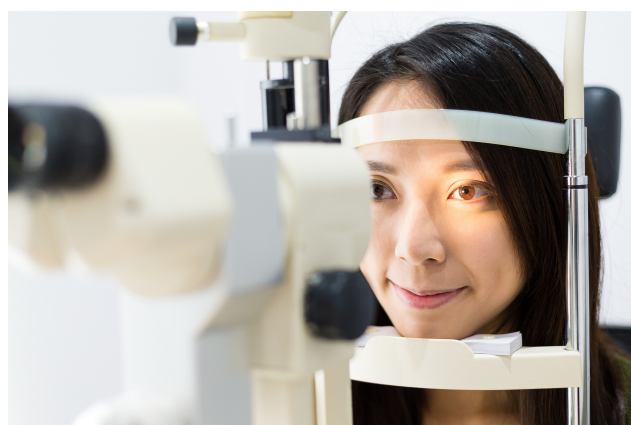
Sports Vision Testing
- Even if your eye exam at a physical indicates that you have 20/20 vision, you can still benefit from consulting a specialized sports vision practitioner.
- This type of eye examination is more extensive than a regular eye test.
- It indicates how well you used your vision on the court while moving and interacting with other objects and players.

Do you have a clear eye on the ball?
- Did your eye exam during your physical indicate that you have LESS than 20/20 vision? You may need corrective lenses to ensure you have the optimal visual ability and are performing your best on the court.
- Consult a certified Sports Vision Optometrist and a Licensed Dispensing Optician for Sport for advice on sunglasses and eyewear to optimize your visual skills for tennis.