EPILEPSY FACT SHEET

Photosensitive Epilepsy (PSE)

What is Photosensitivity?

Photosensitivity is a function of binocular vision and causes a multifaceted medical dilemma. Some people are just born with sensitivity to light or visual patterns such as:

- Contrasting bars, stripes, and geometric patterns
- Grids and sectored type patterns
- Rapidly changing colours (particularly red and blue)
- Checkerboards, flashing bright light followed by complete darkness
- Switching rapidly from 3D TV screens and glasses to non-3D viewing
- Natural sunlight (through trees, blinds, reflecting in the water)
- Artificial light (particularly florescent lights)
- Wind turbines
- Strobe lights in theatres or in nightclubs
- Fireworks
- LED lights
- Flashing lights between 5 and 30 hertz (flashes per second)

When the retina is exposed to these visual stimuli the brain produces seizure-like electrical spikes. When the visual stimulus is particularly strong or constant, an actual seizure can occur. This condition, however, is relatively rare, and it is estimated that only 1.5% of the general population might be photosensitive, some without even knowing it. However, the risk of abnormal brain responses triggered by video games is reported to be as high as 5.7% for individuals between ages 5 and 17.

Who is Affected by PSE?

Photosensitivity affects approximately 3% people with epilepsy and has a strong genetic linkage. However, those diagnosed with generalized epilepsy or with juvenile myoclonic epilepsy may experience greater photosensitivity. Light-induced seizures are often classified as reflex epilepsy, and they occur around ages 8 and 20, suggesting a link with puberty. Photosensitivity may include the following seizures: **tonic-clonic, absence, myoclonic, and focal aware or focal impaired awareness.** These seizures are twice as common in girls as in boys suggesting a strong gender linkage. However, light-induced seizures are more prevalent in boys because boys may play video games more frequently than girls. The risk of photosensitive epilepsy decreases with age and is diagnosed less frequently in people over 30 years old.

Factors Increasing the Risk of Light-induced Seizures

- Stress
- Tiredness
- Excitation
- Intoxication
- Prolonged exposure to flashing images and contrasting patterns
- Being too close to large visual fields such as TV or computer screen
- Exposure to high visual stimulation projected on a dark background or in a dark room
- Frequent blinking when looking at the screen may increase photosensitivity for some people
- Light viewed through a fast moving ceiling fan
- Cameras with multiple flashes

Factors Reducing the Risk of Light-induced Seizures

- Watch TV in a well-lit room
- Get enough sleep every night
- Maintain a healthy lifestyle
- Take regular breaks from the TV and computer screen and look away from the screen
- Use a flat screen, digital or plasma TV and a LCD computer
- Sit well back—at least 2.5 meters away from TV and 30 cm back from a computer screen
- Use blue polarized sunglasses to reduce reflection and glare
- Reduce the brightness on screen monitors
- Minimize exposure to a faulty fluorescent lamp
- Do not play videogames when you are tired or stressed
- Turn the TV/computer off if you start experiencing strange feelings or body jerks
- When suddenly exposed to a visual trigger, covering one eye completely will reduce the risk of light induced seizure; however, covering both eyes is NOT effective at all

It is important to note that 3D films and images projected at cinemas are safe to watch. This is because they are projected separately at each eye which further decreases the already low intensity of the cinema screen. But remember to wear the 3D glasses provided. Also, interactive white boards will not trigger a photosensitive seizure. Similarly, most lights used during holidays are too slow to cause risk, but simultaneous use of several sets should be avoided.

Treatment and Prognosis

Since there is no cure for PSE living with this condition can be extremely frustrating, but practicing the risk reducing strategies along with prescribed drug therapy (valpoic acid is the most often used in PSE) may significantly reduce frequency and severity of seizures.

For Further Information Contact:

Physician or Healthcare Provider

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