

VISUAL SNOW A CASE STUDY

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What is Visual Snow?

- **Visual snow is also known as visual static. It is always bilateral and is likened to “noise in the visual system.” People with this say they see white, black, or less often, colored dots. It is like continuous television-static-like tiny flickering dots in the ENTIRE VISUAL FIELD. There are often additional symptoms of palinopsia (persistent recurrence of images) and photophobia. Those affected have a prevalence of migraines and tinnitus. When there is more than 1 symptom, it is called Visual Snow Syndrome (VSS.)**
- **It is most often continuous but may be episodic.**
- **It persists with the eyes closed.**
- **It often occurs after concussions.**
- **There is a high prevalence of anxiety and depression in these patients.**
- **It used to be thought that patients were malingering or psychogenic, which only added more stress to patients.**

“Visual Snow” Called Real, Not Drug Related,” by John Gever
[www.medpagetoday.com/MeetingCoverage/AAN Meeting/32416](http://www.medpagetoday.com/MeetingCoverage/AAN%20Meeting/32416)

Published April 30,2012 American Academy of Neurology

**“This study was published as an abstract and presented at a
conference...**

**Note that this survey indicates that visual snow, a condition of
unknown etiology,**

**is distinct from migraine and consists of persistent floaters and after
images that fill the visual field. The condition does not interfere with
vision but does impact negatively upon quality of life.”**

- **“A true neurological symptom that is related to dysfunction in the visual association cortex and it is distinctly different from migraine.”**

Annals of Neurology, Nov.1, 2018

- **Visual Snow is a Real Neurological Phenomenon Distinct from Migraine, Dr. Christoph Schankin, Neurology Today, Jan. 1, 2019**

This study was done with VEPs. There was a difference between people who experience visual snow with normal controls and migraine sufferers.

- **“A clinical and phenotypical description of 1000 cases of visual snow,”**

Francesca Puledda, Christoph Schankin, Peter Goadsby

Neurology, Feb., 2020

A survey was done of 1000 people who have visual snow. There is a clinical continuum with different degrees of severity. The most common symptoms reported were floaters, afterimages, and photophobia.

Visual Snow is not HPPD (Hallucinogenic persisting perception disorder,” or flashbacks from drugs.) The Visual snow pathophysiology does not have a connection with the use of recreational drugs.

Visual Snow Optometric Resources

- **Ciuffreda, Tannen, and Han. Vision Development and Rehabilitation, 2019, Volume 5, Issue 2, pp75-82. “Visual Snow Syndrome (VSS): An Evolving Neuro-optometric Clinical Perspective”**
- **Ciuffreda, Tannen, And Han. Vision Development and Rehabilitation, 2019, Volume 5, Issue 4, pp 249-254. “Pediatric Visual Snow Syndrome: A Case Series”**
- **Dr. Esther Han, Associate Clinical Professor at SUNY, OEP Wednesday Night Webinar, December 16, 2020**

PRIMARY VISUAL SYMPTOMS:

Palinopsia (persistence of an image superimposed on the new image, trailing

Entoptic imagery (excessive floaters, colored waves, bright flashes

Photosensitivity (photophobia)

Nyctalopia (night vision difficulties due to VS overlay

SECONDARY VISUAL SYMPTOMS:

Photopsia (sparks, flashes, even with eyes closed)

Migraine (not the visual aura of migraine)

Phonophobia (dread of certain sounds)

Hyperacusis (painful sensitivity to sounds of specific frequencies)

Cutaneous Allodynia (pain sensation of skin or scalp)

Tinnitus (“ringing in the ears”)

Balance problems

Tremor

Provoking Environments for VSS

- **High contrast text**
- **High luminance conditions**
- **Computer screens**
- **Darkness**
- **Fatigue**
- **Stress**

Optometric Assessment and Treatment

- **Refraction, Binocularity, Accommodation, Oculomotility**
- **Chromatic Filter Assessment (SUNY):**
 - Cerium colorimetry (colorimeter and lens lab in England)**
 - BPI tint trial lenses**
 - FL 41 (25%, 50%)**
 - *ophthalmic chromatic tint trial (make tinted flippers, blue, gray, with different saturations in flippers)**
- **Neuro-optometric Rehabilitation Vision Therapy**
- **Pharmacological interventions: Lamotrigene, Acetazolamide, Verapamil**
- **Current Research is ongoing: the Visual Snow Initiative**
- **Facebook support groups**

Isadora and the Visual Snow

- **Case History:**
- **41 year-old female first eye exam with me on May 7, 2012.**
- **She is hypersensitive to everything and has VISUAL SNOW.**
- **She also has photophobia.**
- **She got her newest glasses June 8, 2008.**
- **The glasses made the visual snow worse.**
- **She started having panic attacks at the end of 2008.**
- **She was put on medication for panic attacks: Celexa and Xanax PRN.**
- **She uses a computer and reads most of the day, doing freelance press releases.**
- **I had never heard of visual snow before**

- **Old Rx single vision: OD -2.25-1.00x137 “blurry”**
- **OS pl-1.50x35**
- **VA OU without Rx 20/40 OU**
- **Cover Tests: Distance and Near ortho**
- **NPC at 2 inches, jumps back**
- **Refraction: OD -2.00-1.75x140 VA 20/40-2 20/30 (VA on Aug 7, 2012)**
- **OS +0.25-1.50x40 VA 20/30 20/25**
- **Phorias: Distance ortho, Near 4 exo**
- **Trial lenses: (tints in blue, gray with different saturations, yoked prisms, Base In prisms)**
- **Rx given as above with ½ Base In OU and Gray #1 tint.**
- **Add +1.50 VA 20/25 OU**
- **Keratometry: OD 43.25/47.25@50 OS43.25/45.25@40**
- **Wanted referral to OMD for keratoconus**

- She called me after getting her glasses to report that the visual snow is “60% better.” She sent a thank you card “Thank you for helping me wear eyeglasses again with my visual snow.”
- Next Exam: April 22. 2013
- She reported she was seeing a retina specialist for lattice degeneration
- She was seeing a corneal specialist for keratoconus
- She “enjoys her glasses!”
- The only change was to give her single vision Computer Rx +1.25 add
- OD: -0.75-1.75x140 ½ Base In Gray #1 tint OU
- OS: +1.50-1.75x40 ½ Base In

- **She had appointments on April 22, 2013, October 2, 2014, and June 3, 2015**
- **Last appointment was May 19, 2017**
- **She had fallen on her head 3 months earlier so she had an mri.**
- **The mri showed her VISUAL CORTEX was OVERACTIVE.**
- **She was still being followed for retina lattice and keratoconus.**
- **She wanted 2 new pairs of glasses, separate for distance and near.**
- **She was very happy to be understood!**