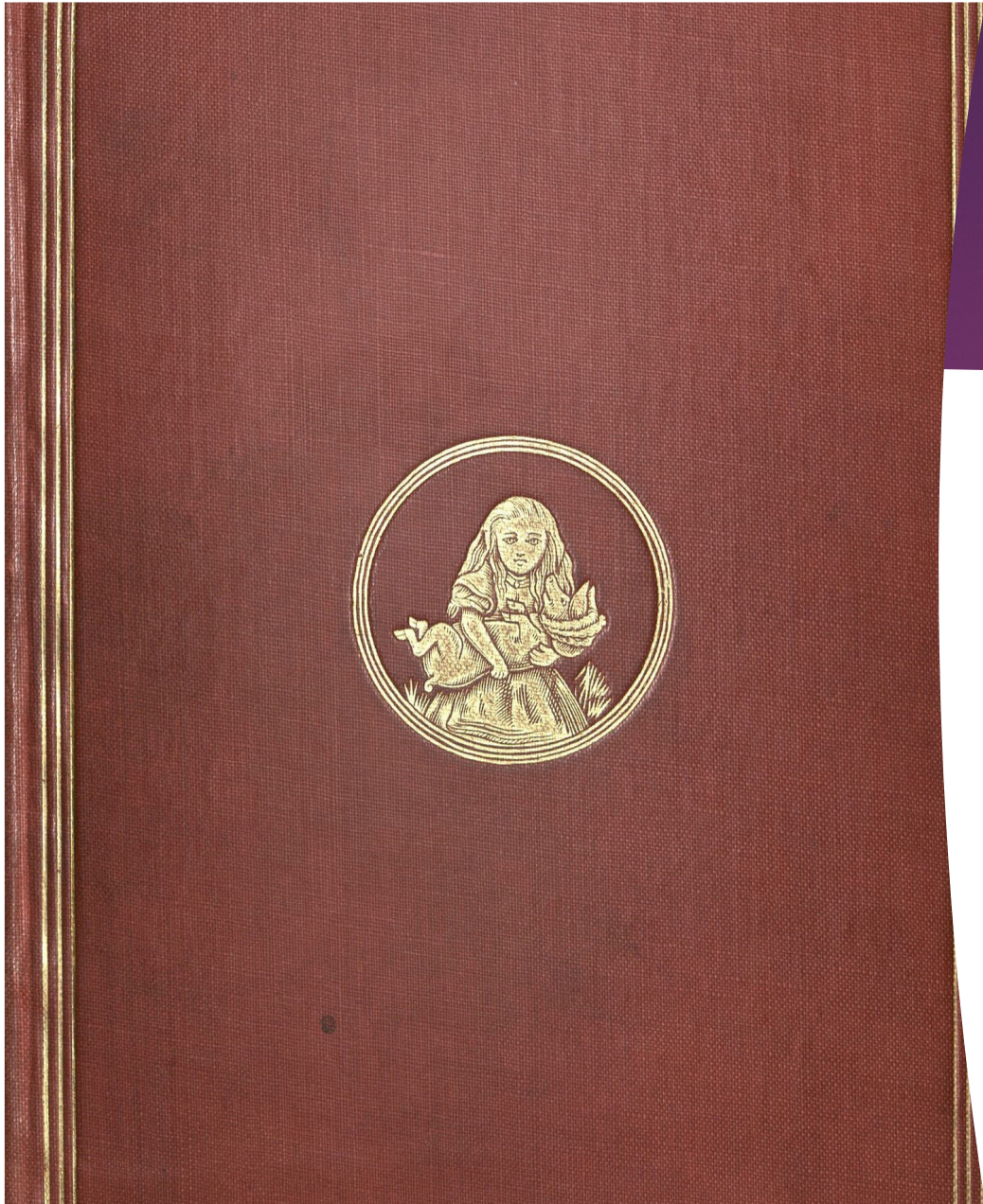




“This is getting curiouser and
curiouser!”
Alice in Wonderland Syndrome

CSO CONFERENCE MAY 2024

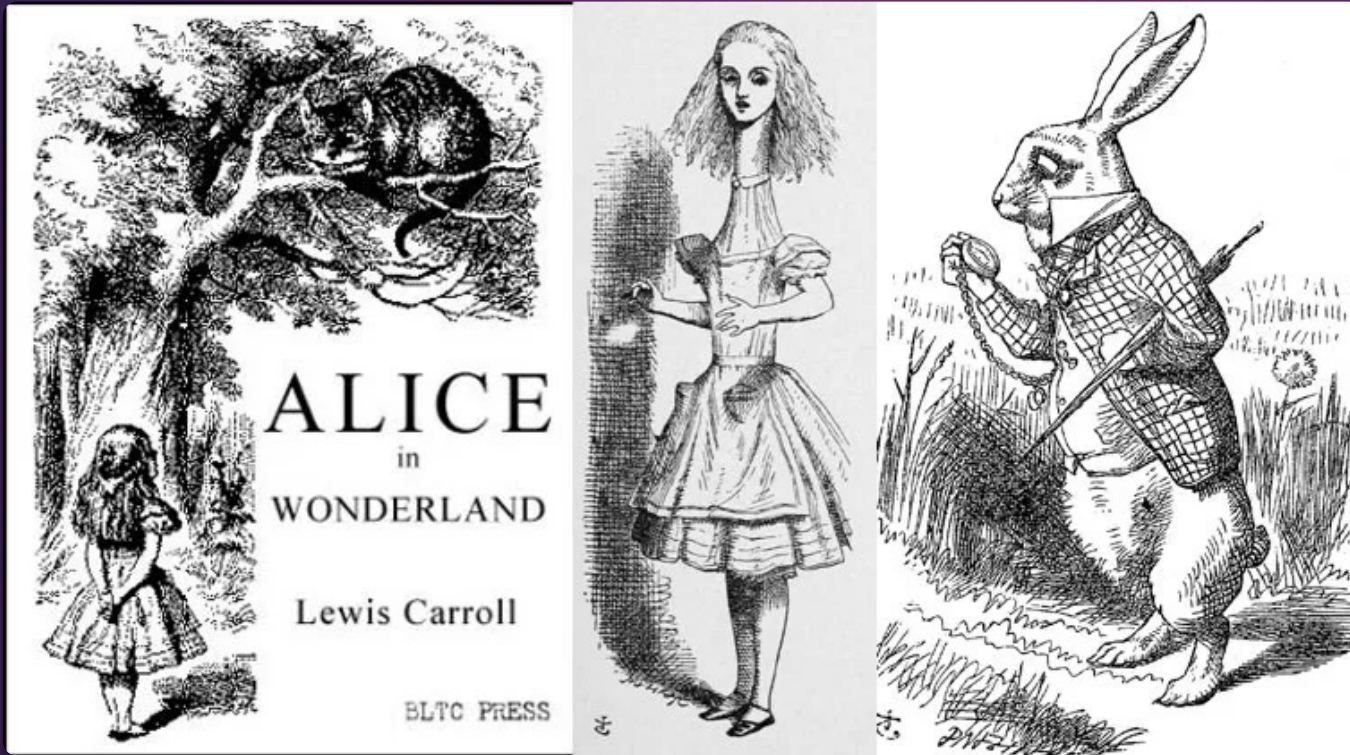


Alice In Wonderland Syndrome

First Described in 1955 by British Psychiatrist John Todd

Named after Lewis Carroll's book

Thought Lewis Carol suffered from this syndrome



What is
it?

Clinical Definition

- ▶ “Alice in wonderland syndrome (AIWS) describes a set of symptoms with alteration of body image. An alteration of visual perception is found in that way that the sizes of body parts or sizes of external objects are perceived incorrectly. The most common perceptions are at night. The causes for AIWS are still not known exactly. Typical migraine, temporal lobe epilepsy, brain tumors, psychoactive drugs or Epstein-Barr-virus infections are causes of AIWS. AIWS has no proven, effective treatment. The treatment plan consists of migraine prophylaxis and migraine diet. Chronic cases of AIWS do exist.”



Introduction

- ▶ Also known as Todd Disease
- ▶ Defined as a perceptual disorder
- ▶ Sensory perception vs hallucinations or illusions
- ▶ Often characterized by distortions of visual perception, body schema, and experience of time

Signs and Symptoms

- The signs and symptoms may include:
- Visual distortions - such as seeing objects smaller or larger than normal, and perceiving objects as being closer or farther from each other
- Unable to differentiate between colors
- Visual hallucinations
- Sensing straight lines and edges as wavy
- Unable to judge time
- Associated signs and symptoms of the underlying condition/disorder may also be observed

3 types of AIWS. (directly from PMC)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5223006/>

Type A	Aschematia: partial or total macrosomatognosia or microsomatognosia; paraschematia	
Type B	Macro- and micropsia and/or tele- and pelopsia. When micropsia and telopsia appear at the same time and for the same object: porropsia Lilliputianism (people appearing smaller)	Derealization, depersonalization, somatopsychic duality, aberration in judgement of time
Type C	Type A + type B symptoms	

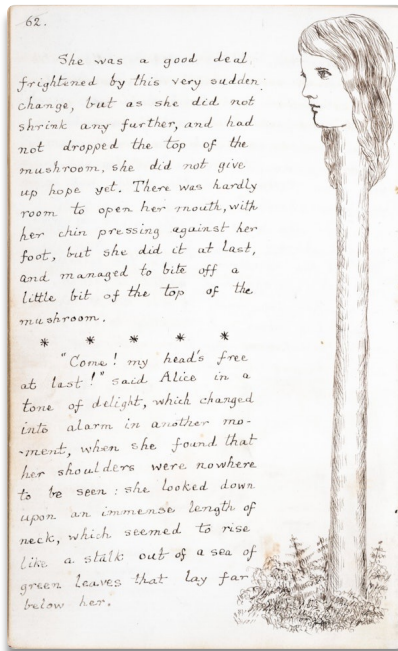
Subtypes Continued

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5223006/>

- **Disturbances in self-perception.** People with this have trouble correctly perceiving the size and feel of their own body (either the whole body or just specific parts). It also changes your sense of reality, your ability to feel connected to your body and your emotions, and the passage of time. This form makes up about 9% of cases.
- **Disturbances in visual processing.** This affects how your brain processes what you see around you. This is the most common form, making up about 75% of cases.
- **Combined symptoms.** This is when you experience symptoms that affect both your self-perception and visual processing.

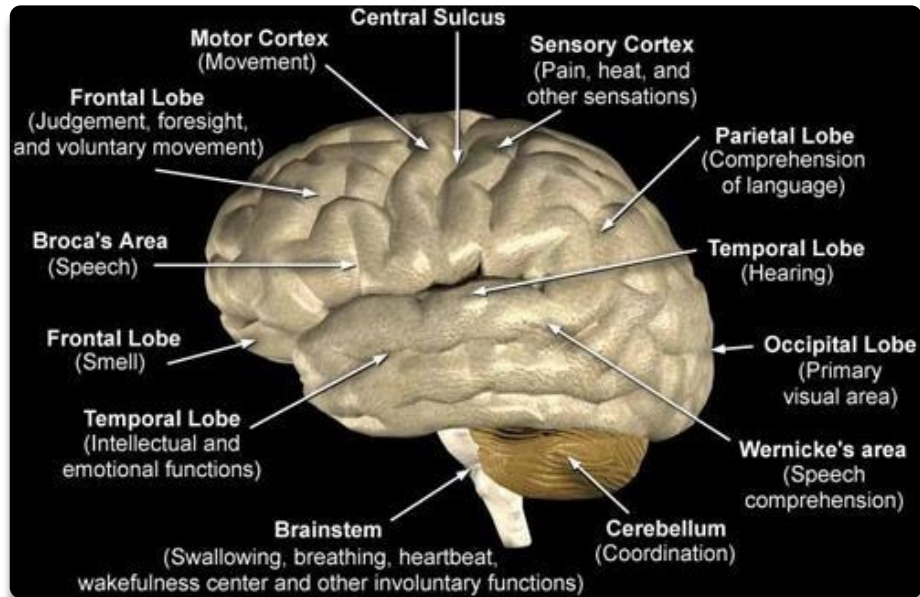


Famous Celebrities that reported AIWS symptoms



- ▶ Lewis Carrol
- ▶ Lil Wayne
- ▶ Winona Ryder
- ▶ Orlando Bloom
- ▶ Johnny Depp
- ▶ Miley Cyrus

Brain



- ▶ “Todd suggested a parietal location for the distortions of body image, and recent reports of patients with AIWS have shown dysfunction of the temporo-occipital or the parieto-occipital cortex – two brain regions heavily involved in information processing.”
- ▶ “This syndrome affects children more than adults because the visual system in children is somewhat different, especially in an area called the **ventral pathway of the visual cortex**. ”
- ▶ “Parietal location for the distortions of body image, and recent reports of patients with AIWS have shown dysfunction of the temporo-occipital or the parieto-occipital cortex – two brain regions heavily involved in information processing.”

Suspected Etiology

- ▶ Infectious disease
 - ▶ CNS lesions
 - ▶ PNS lesions
 - ▶ Epilepsy
 - ▶ Psychiatric disorders.
- Medication induced
 - Substance Abuse
 - Miscellaneous
 - Migraine
 - Migraine Aura

Examples of Infectious Disease

- ▶ ** Epstein-Barr virus encephalitis
- ▶ Lyme Neuroborreliosis
- ▶ Encephalitis (Influenza A, Typhoid, Varicella-zoster)

- ▶ Blom JD. Alice in Wonderland syndrome: a systematic review. Neurology: Clinical Practice. 2016 Jun 1;6(3):259-70.

CNS Lesions

- ▶ Cavernous angioma
- ▶ Cerebral (angioma, arteriosclerosis, thrombosis, hemorrhage, infarctions)
- ▶ Brain tumor
- ▶ Robin Hood Syndrome
- ▶ Wallenberg Syndrome

- ▶ Blom JD. Alice in Wonderland syndrome: a systematic review. Neurology: Clinical Practice. 2016 Jun 1;6(3):259-70.

Miscellaneous

- ▶ Hypnagogic/Hypnopompic state
- ▶ Hypnotherapy
- ▶ Sensory Deprivation

Psychiatric Disorders/Medications

- ▶ Depressive disorder
- ▶ Depersonalization disorder
- ▶ Misidentification Syndrome
- ▶ Montelukast
- ▶ Risperidone
- ▶ Topiramate
- ▶ Dextromethorphan

Visual Distortions

- ▶ 42 visual symptoms
- ▶ Distortions of Sensory Perception (not hallucinations)

Table 2 Visual distortions (metamorphopsias) that may be experienced in the context of Alice in Wonderland syndrome

Type of metamorphopsia	Characterization	No. of times (%) described in the literature (N = 169)
Achromatopsia	The inability or strongly diminished ability to perceive color	9 (5.3)
Akinetopsia	The inability to perceive motion	—
Arugopsia	Seeing wrinkled surfaces as smooth	1 (0.6)
Chloropsia	Green vision	—
Chromatopsia	Seeing things in a single hue (as in chloropsia, cyanopsia, erythropsia, ianethinopsia, and xanthopsia)	1 (0.6)
Corona phenomenon	An extra contour around objects	—
Cyanopsia	Blue vision	—
Dyschromatopsia	Color confusion	3 (1.8)
Dysmegalopsia	A diminished ability to appreciate the size of objects	—
Dysmetropsia	A change in the apparent size and distance of objects	—
Dysmorphopsia	Lines and contours appearing to be wavy	34 (20.1)
Dysplatopsia	Objects appearing flattened and elongated	—
Enhanced stereoscopic vision	An exaggeration of the depth and detail of visually perceived objects	2 (1.2)
Entomopia	Seeing multiple images, as if perceived through an insect's eye	—
Erythropsia	Red vision	3 (1.8)
Gyropsia	Seeing an illusory, circular movement	—
Hemimetamorphopsia	A visual distortion of only one half of an object	—
Hyperchromatopsia	Seeing colors as exceptionally bright	4 (2.4)
Ianethinopsia	Purple vision	1 (0.6)
Illusory splitting	An illusory vertical splitting of objects	1 (0.6)
Illusory visual spread	A perceived extension, expansion, or prolongation of objects	—
Inverted vision	Objects appearing rotated (usually in the coronal plane, over 90° or 180°)	1 (0.6)
Kinetopsia	Illusory movement	15 (8.9)
Loss of stereoscopic vision	Objects appearing 2-dimensional or "flat"	—
Macroproxiopia	Objects appearing larger and closer by than they are	2 (1.2)
Macropsia	Seeing things larger than they are	76 (45.0)
Micropsia	Seeing things smaller than they are	99 (58.6)
Microtelepsia	Objects appearing smaller and farther away than they are	7 (4.1)
Monocular metamorphopsia	Metamorphopsia for one eye	—
Mosaic vision	A fragmentation of perceived objects into irregular, crystalline, polygonal facets, interlaced as in a mosaic	—
Palinopsia	Illusory recurrence of visual percepts (as in polyopia, illusory visual spread, and the trailing phenomenon)	3 (1.8)
Pelopsia	Objects appearing closer by than they are	11 (6.5)
Plagiopsia	Objects appearing as if tilted	—
Polyopia	Seeing multiple identical copies of a single image	1 (0.6)
Porropsia	Stationary objects appearing to move away	3 (1.8)
Prosopometamorphopsia	Apparent distortion of faces	3 (1.8)

Continued

Table 2 Continued

Type of metamorphopsia	Characterization	No. of times (%) described in the literature (N = 169)
Teleopsia	Objects appearing to be farther away than they are	39 (23.1)
Trailing phenomenon	A series of discontinuous stationary images trailing behind a moving object	—
Visual allachesthesia	Objects appearing dislocated into the opposite visual field	4 (2.4)
Visual perseveration	An illusory recurrence of visual percepts after an object has moved out of focus	—
Xanthopsia	Yellow vision	—
Zoom vision	Vision fluctuating between micropsia and macropsia, or between microtelepsia and macroproxiopia	4 (2.4)

Dysmorphopsia.

Plagiopsia



<https://www.scientificamerican.com/article/famous-paintings-can-reveal-visual-disorders>

Acromatopsia/ Hemiacromaptosia



► [HTTPS://WWW.MASVISION.ES/BLOG/ACROMATOPSIA-VER-MUNDO-BLANCO-NEGRO](https://www.masvision.es/blog/acromatopsia-ver-mundo-blanco-negro)

<https://www.tuasaude.com/acromatopsia/>



Pelopsia



<https://www.aao.org/education/editors-choice/must-read-review-of-palimpsest>

Diagnostic Testing

- ▶ **Blood tests (check for signs of infection/inflammation)**
- ▶ **MRI (examine abnormalities or damage)**
- ▶ **EEG (electrical activity of the brain/seizure detection)**
- ▶ **Eye tests (visual function)**
- ▶ **Physical Exam**

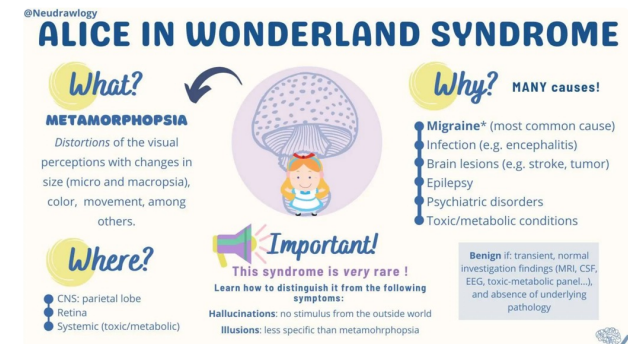
Treatments



- ▶ Anti-migraine medications
- ▶ Antibiotic/Antiviral medications
- ▶ antiepileptic medications
- ▶ Avoiding medications that may cause. (cough syrup, antihistamines, antidepressants, or anti psychotics)
- ▶ Relaxation techniques, (meditation, yoga, breathwork, and mindfulness)
- ▶ Lifestyle/Dietary changes
- ▶ Syntonic Optometric phototherapy

Recap

- ▶ “How puzzling all these changes are! I'm never sure what I'm going to be, from one minute to another.”
— Lewis Carroll, Alice's Adventures in Wonderland





Cases: Both had
flares during a visit

► <https://www.msn.com/en-xl/health/other/alice-in-wonderland-syndrome-is-actually-a-real-neurological-condition/ss-BB1kgMuG?ocid=XMMO>

AM History

- ▶ 17 y.o. HF
 - ▶ H/o migraines (long standing since age 11)
 - ▶ (+) FMH of migraines
 - ▶ Meds: Albuterol, Flonase, Ajoovy, Nurtec,
 - ▶ Denies any h/o concussion or TBI
 - ▶ (+) EBV was hospitalized age 10
-
- ▶ Previous Treatments: Atlas-Orthogonal, PT, Vestibular PT, Botox, Trigger points, IV antibiotics for EBV

AM History

- ▶ Was misdiagnosed for many years
- ▶ Many doctors felt she was daydreaming or making things up
- ▶ Neurology/Psychiatry referral due to “extreme panic attack”

AM Chief Complaint

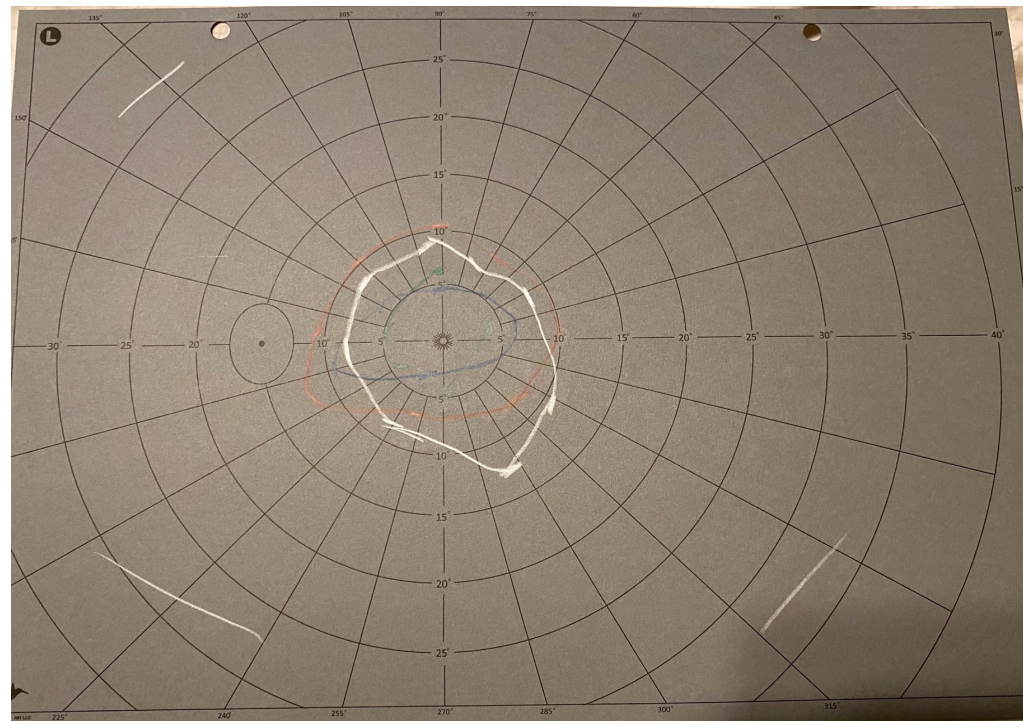
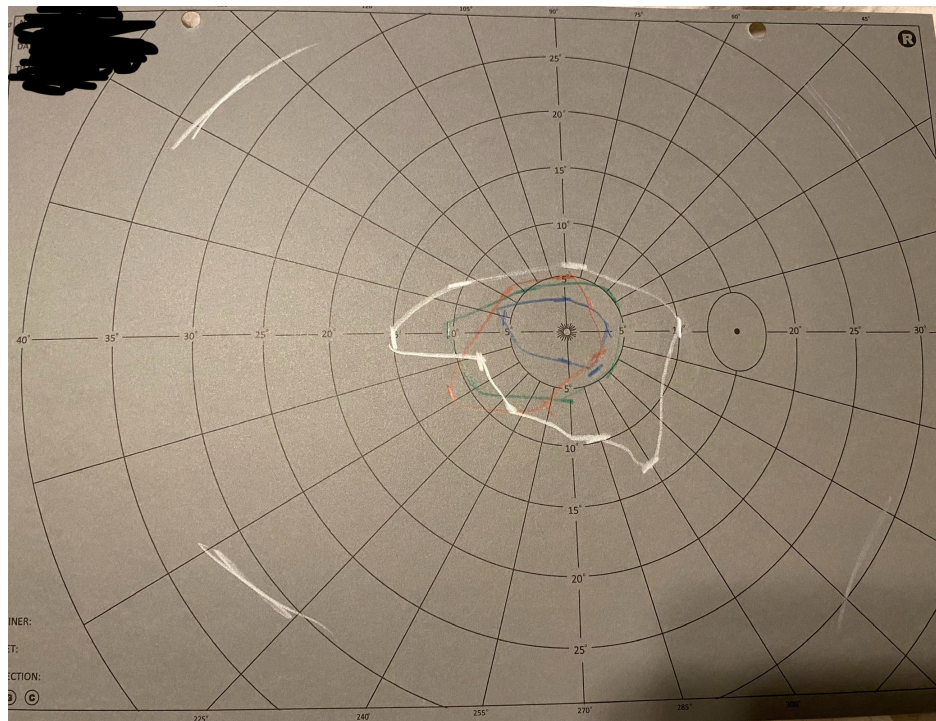
- ▶ CC: Visual disturbances, motion sickness, loss of time, sounds very bothersome. The sound of her breathing made her feel very bothered. Over sensitive feeling of her tongue, she felt as if she was going to choke on it. Hands would get really large, then suddenly shrink. These would occur weekly
- ▶ Migraines with auras
- ▶ Vestibular migraines



Exam (during flare)

- ▶ Unaided VA: 20/100 O.D. and 20/250 O.S.
- ▶ Pupils: PRRL (-)APD. (+) AO pupil , 7mm, 8mm and 4+ OD and OS
- ▶ EOM: Full range, head movement (reported light would change color)
- ▶ CF: distorted or missing upper temp quadrant OU
- ▶ Ocular health unable IOP: soft DFE: unable
- ▶ Retinoscopy: -3.00 -0.75 x 015. O.D. and -3.75 DS
- ▶ Subjective (Distance). O.D. -2.50 0.75 x 180 VA 20/40. PH NI
- ▶ O.S. -3.00 VA 20/40. PH NI
- ▶

Field on the day of a flare



Treatment During Flare

- ▶ Theta N and Mu Upsilon in office
- ▶ Somatic Body work Mu goggles
- ▶ Breathwork
- ▶ Mindfulness
- ▶ Prism Yoked rotating while seating
- ▶ Grounding Mat

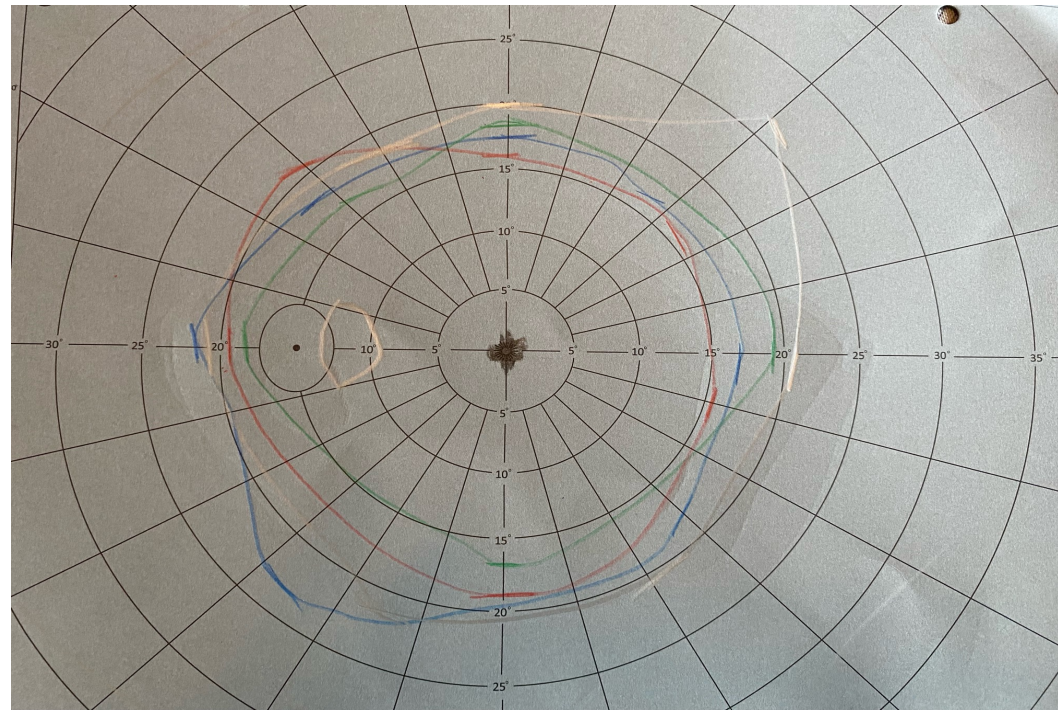
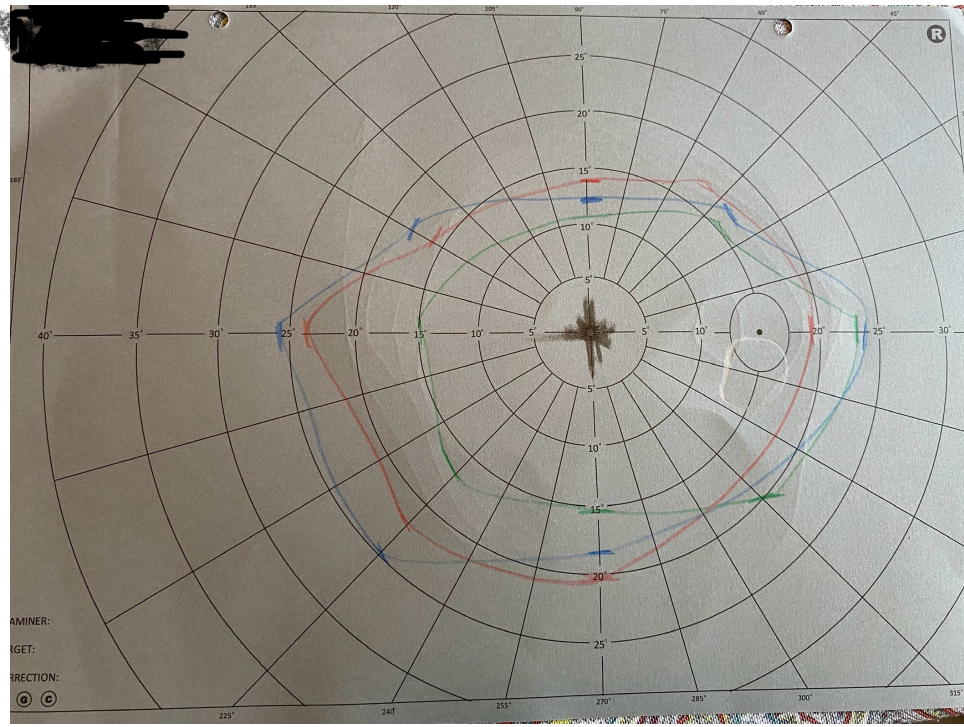
EXAM Non Flare

- ▶ Unaided VA: 20/20 O.D. and 20/25 O.S.
- ▶ Pupils: PERRL (-)APD. (+) AO pupil , 5mm, 5mm and 3-4+ OD and OS
- ▶ EOM: Full range, choppy motion. (Nausea reported with movement)
- ▶ CF: FTFC. O.D. and O.S.
- ▶ Ocular health unremarkable IOP: unremarkable DFE: done last time
- ▶ Retinoscopy: +0.12 -0.25 x 015. O.D. and +0.25 O.D.
- ▶ Subjective (Distance). O.D. +0.12 VA 20/20
- ▶ O.S. +0.12 VA 20/20
- ▶ Binocular Balance: O.D pl VA 20/20 Final: +0.12 OU performance lenses
- ▶ O.S. PI VA 20/20 nasal occlusion OS

Binocular Findings

- ▶ **Binocular Findings**
- ▶ Distance Vergences. BI x/4/2 BO x/4/6
- ▶ Near Vergences. BI X/8/4 BO X/18/6
- ▶ CT. Ortho distance. 2XP ‘
- ▶ Phorias. 2XP (dist). 6XP’. 1 Right hypophoria
- ▶ NPC. X/10/15 (+) Suppression
- ▶ W4D. 4 dots near, far. Full room illumination and dark
- ▶ NRA/PRA. +2.00/-2.50

Functional Field



A/P

▶ Diagnosis

- ▶ Alpha Omega Pupils
- ▶ Generalized Constriction of Visual Field
- ▶ Generalized Visual Disturbances

▶ Prognosis

- ▶ AM.'s goal was to have a reduction in migraine symptoms..
- ▶ Although I can not cure, we will try our best to help abate the migraines and lessen AIWS visual disturbances.

Treatments

- ▶ Breathwork and Grounding with 2^ yoked (in all directions)
- ▶ Sunning and Palming daily
- ▶ Mantras, Affirmations, Meditations 2x daily (recordings given)
- ▶ Theta N 10 minutes Mu Upsilon 10 minutes x 7 days in office
- ▶ Syntonics at home 5 days on 2 days off x 21 days total
- ▶ Sole Water every am
- ▶ Consult with ND/FM for hormonal testing

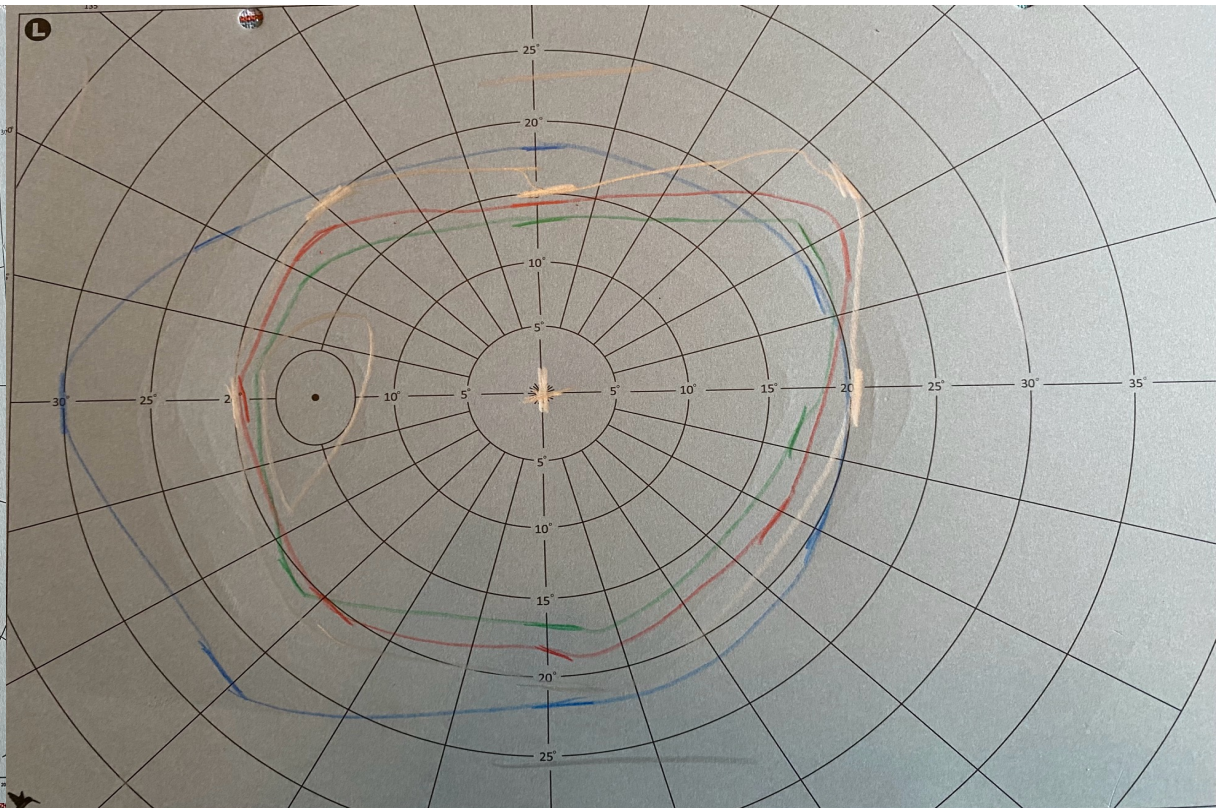
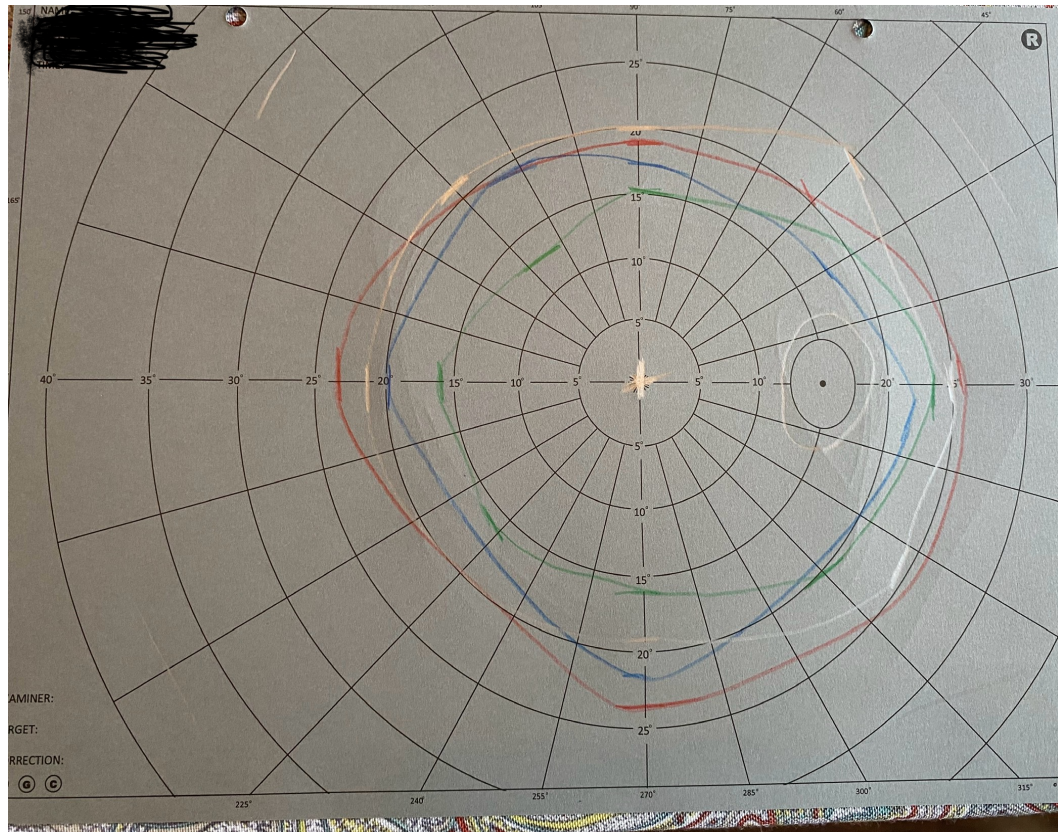
Treatment

- ▶ Lifestyle Changes (reduction in EMF, Blue Light Diet, Sleep modification)
- ▶ Dietary Changes
- ▶ Cleaned up Gut Health (Gut cleanse)
- ▶ Detox (foot bath)
- ▶ Castor Oil Packs
- ▶ Supplements (Mg, Omega 3, CBN, Mushroom complex, Ashwagandha, B2, and NAC)

1 week follow up

- ▶ A.M. reported feeling improvement after 1 week. Her headaches decreased from daily, to 3 total in 7 days. She reported occasional breaks from feeling dizzy and “fun house” like
- ▶ **Binocular Findings**
- ▶ Distance Vergences. BI x/4/2 BO x/6/2
- ▶ Near Vergences. BI X/7/5 BO X/12/6
- ▶ CT. Ortho distance. Ortho ‘
- ▶ Phorias. Ortho (dist). 2XP’
- ▶ NPC. TN

1 week Field



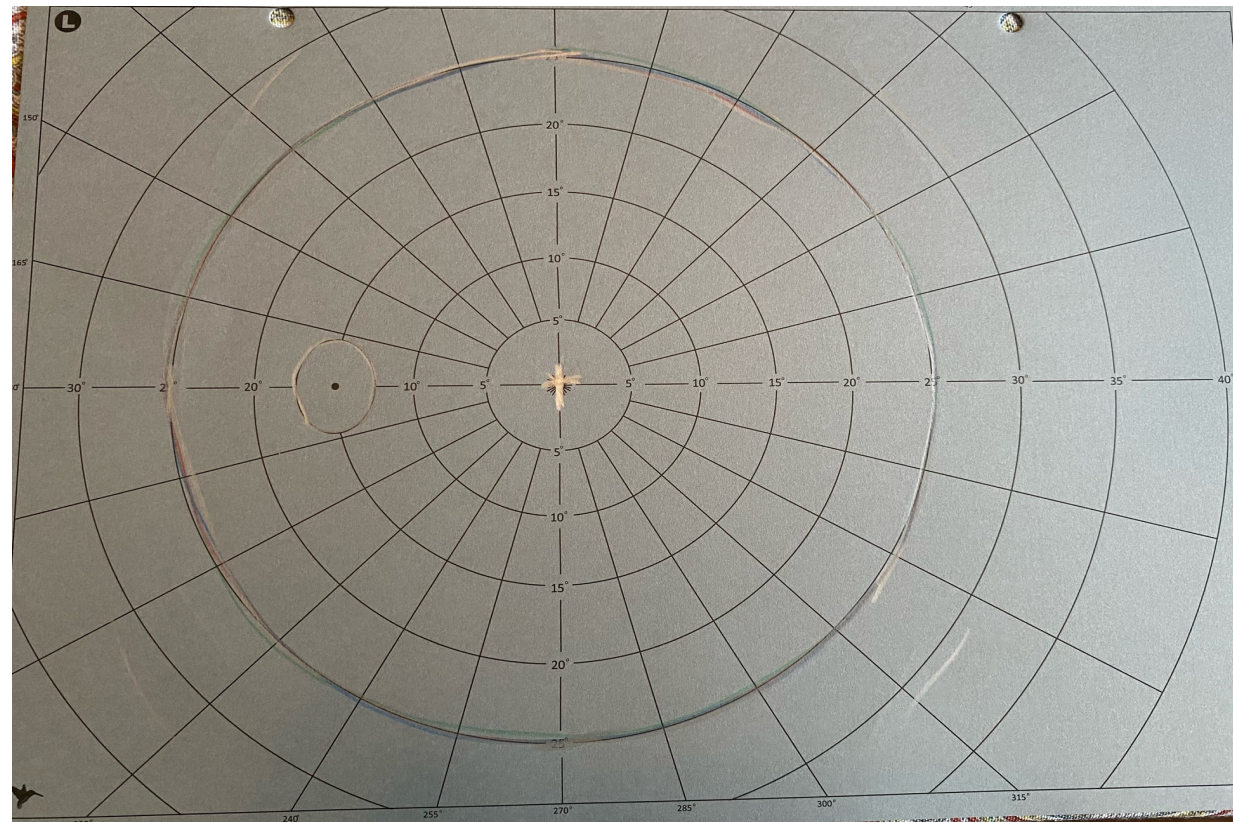
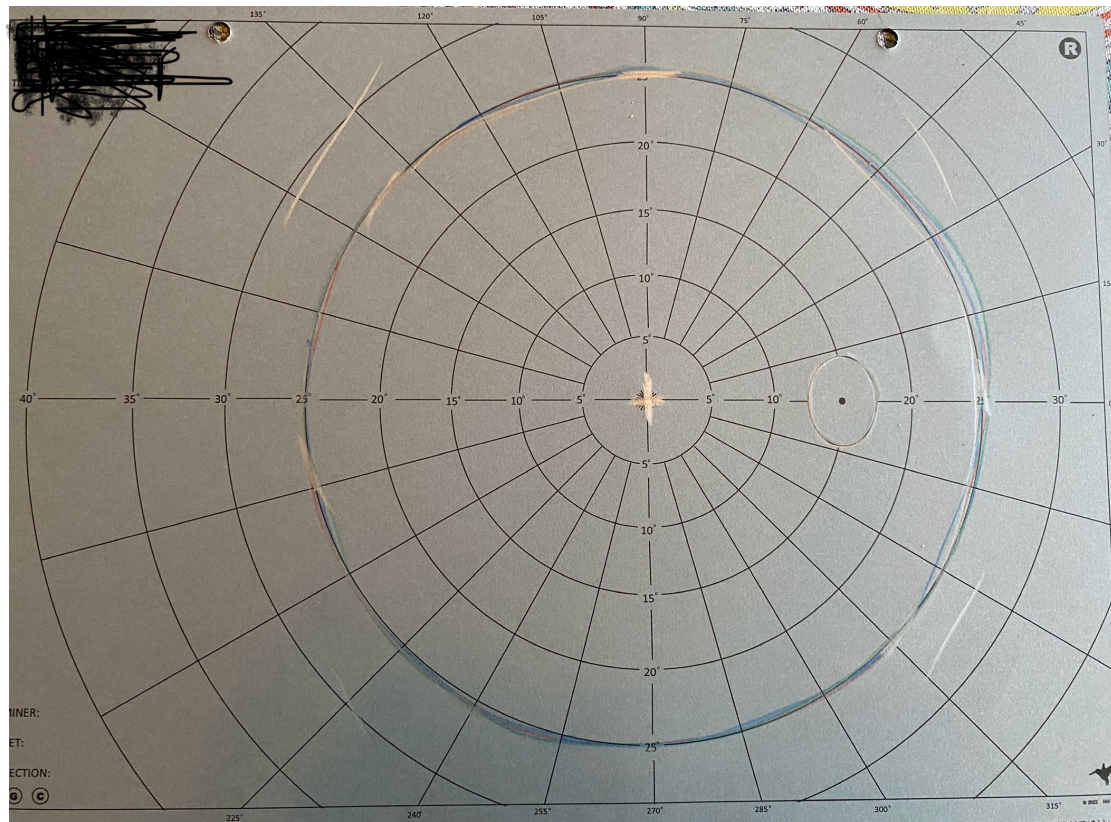
1 week follow up treatment

- ▶ Continue as directed
- ▶ Start NOR in and out of office
- ▶ Changed filters Theta and Mu Delta
- ▶ Syntonics at home 5 days on 2 days off x 21 days total

21 days post home treatment

- ▶ A.M. Reported feeling much improved. She was sleeping better, going out with friends, 1 episode total and no abnormal motion! Most importantly, she was driving. Reported she could manage stress better.
- ▶ **Exam Findings**
- ▶ VA: 20/20 OD, OS, OU (D/N)
- ▶ Vergences (D) BI x/4/2 BO x/4/2. (N): BI X/ >45 BO X/>45
- ▶ CT. Ortho distance. Ortho ' Phoria: ortho (D/N)
- ▶ NPC. TN. Pupil : 5mm tr -0 ao, OD. 5mm tr - 0+, OS
- ▶ Goggle therapy as needed (Theta and Mu)

Functional Field 21 days



Follow up

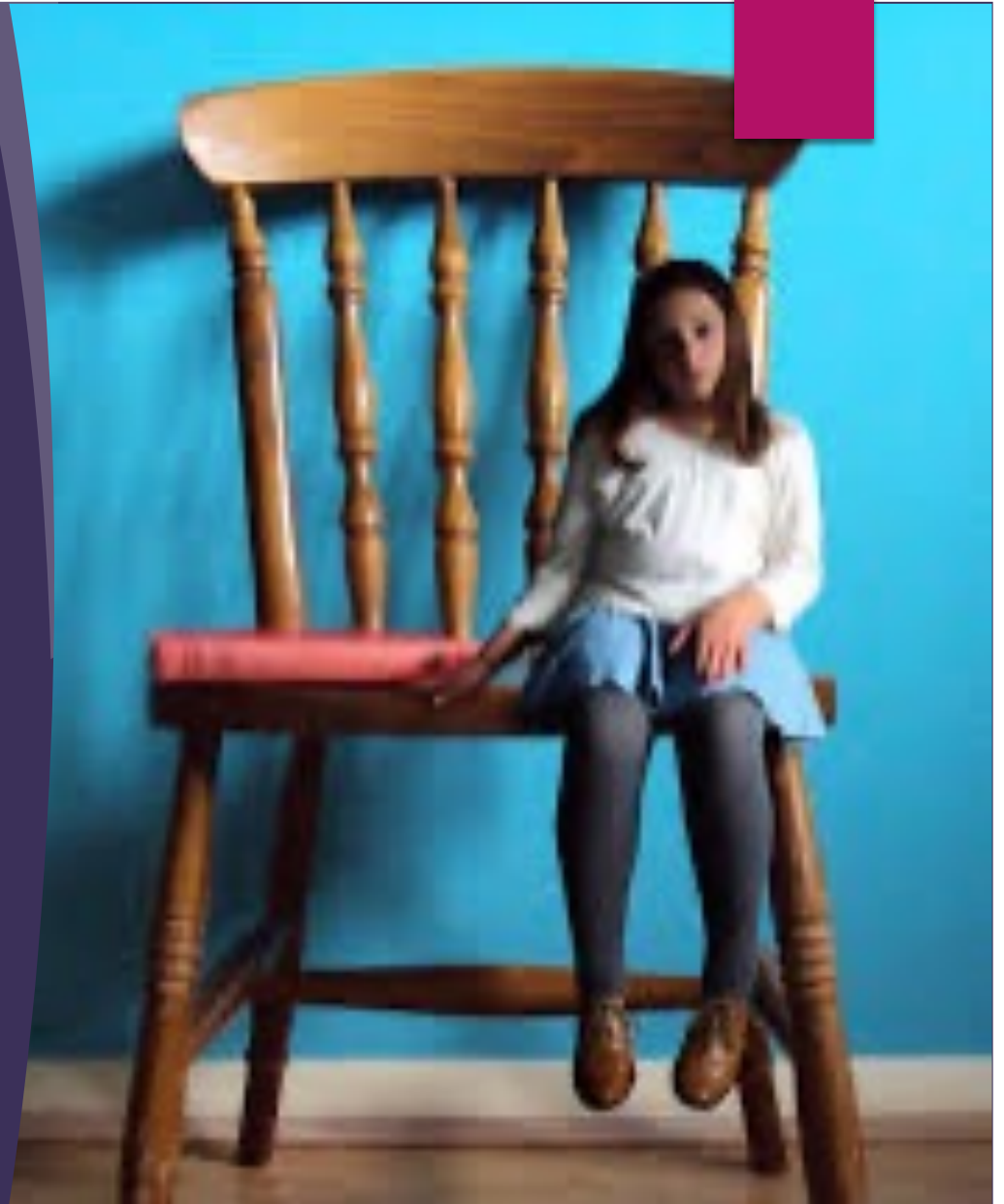
- ▶ A.M. does a great job of maintaining a healthy lifestyle.
- ▶ During times of stress, illness, or busyness she will come into the office for Syntonic Optometric phototherapy or other forms of PBM.
- ▶ A.M. has learned her triggers and is working on better management skills
- ▶ A.M. was sent to a TCM provider
- ▶ A.M. is continuing care with the ND for hormonal treatment
- ▶ A.M. continues care with neurology as directed

Case 1 AM



Case 2 R.O.

- ▶ 19 y.o. CF
 - ▶ H/o migraines , Occipital Neuralgia, GAD, Questionable Autoimmune disorder
 - ▶ (+) FMH of migraines with auras
 - ▶ (+) H/o Concussion from Soccer 3 years ago
 - ▶ (+) Hospitalized from COVID
 - ▶ Meds: Prevacid, Wellbutrin, Ubrevly, Aimovig
-
- ▶ Previous Treatments: NUCCA, PT, Oc Blocks, and Dry needling



Chief Complaint

- ▶ CC: Visual disturbances, loss of time, changes in the way her body looked and felt . Hands would shrink, then suddenly her head would enlarge. Wavy and distorted vision. Felt like she was on a constant carousel. $\frac{1}{2}$ of her vision would be in color, the other $\frac{1}{2}$ grey. These would occur monthly
- ▶ Migraines with auras, long standing from Concussion
- ▶ IBS



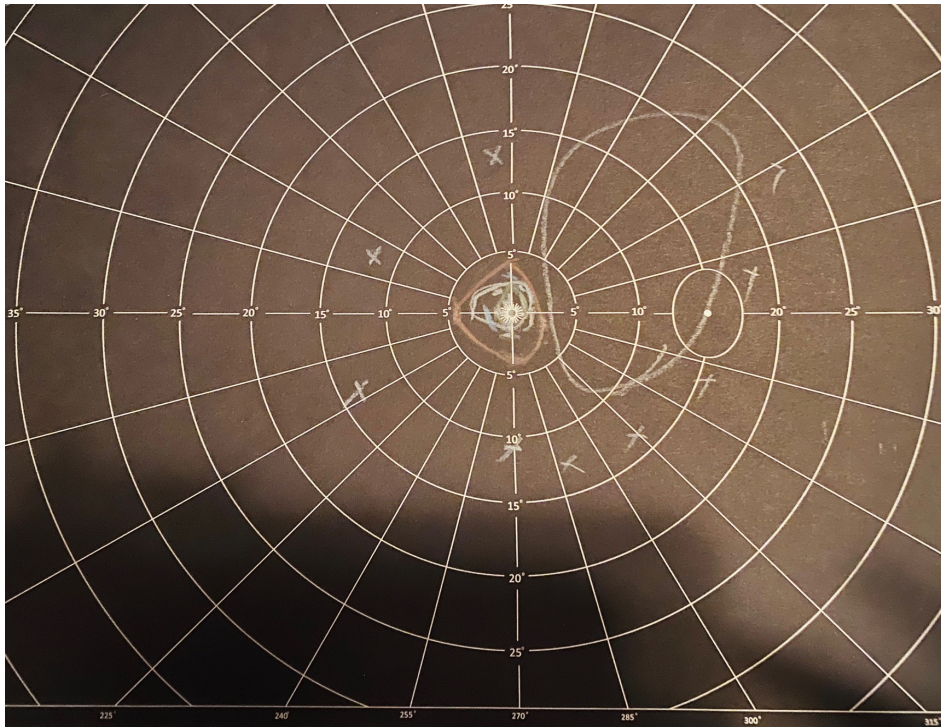
Initial Exam (On day of flare)

- ▶ Unaided VA: 20/40 O.D. and 20/100 O.S. (Snellen small and far away)
- ▶ Pupils: PERRL (-)APD. (+) AO pupil, 8mm, 6mm and 4+ OD and OS
- ▶ EOM: Full range, choppy motion. (Nausea reported with movement)
- ▶ CF: Missing upper nasal. O.D. and O.S. VF: unable
- ▶ Ocular health unable to put in SLE IOP: soft/equal DFE: unable
- ▶ Retinoscopy: -2.00 -0.25 x 015. O.D. and -2.00 O.D.
- ▶ Subjective (Distance). O.D. -1.00 -0.50 x 005 VA 20/25
- ▶ TF O.S. -1.00 -0.50 x 180 VA 20/40
- ▶ Binocular Balance: O.D. -0.50. VA 20/25
- ▶ OS. -0.75 VA 20/25

Binocular Findings (day of flare)

▶ Binocular Findings

- ▶ Distance Vergences. BI unable BO unable
- ▶ Near Vergences. BI unable BO unable
- ▶ CT. 6XP distance. 2XP ‘
- ▶ Phorias. Unable
- ▶ NPC. X/12/15 (+) Suppression
- ▶ W4D. 4-6 dots near, far. Full room illumination and dark
- ▶ NRA/PRA. Unable. Visual Midline shift: up and to left



Functional field (flare)

Treatment (day of flare)

- ▶ 0.5 ^ yoked prism rotations with grounding
- ▶ Heart Centered Breathing with Mu Upsilon goggles
- ▶ Somatic Body work
- ▶ Mindfulness

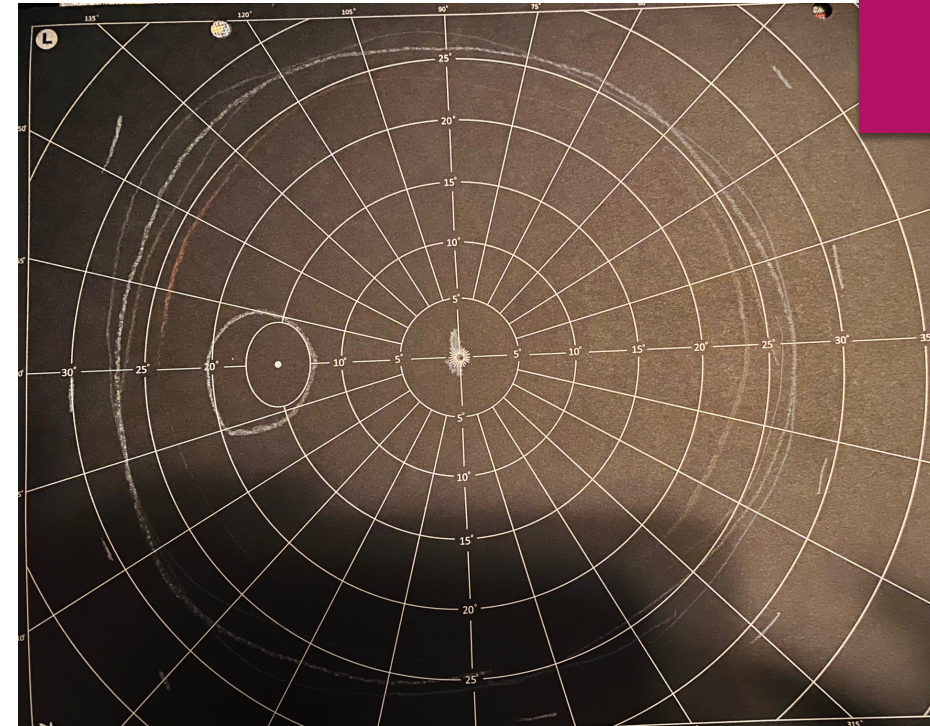
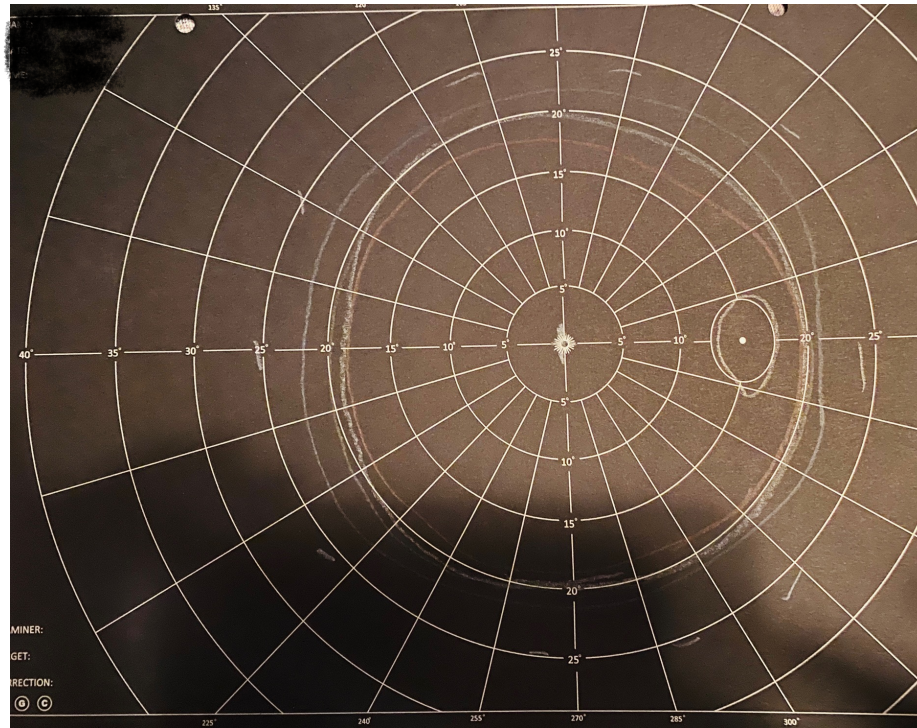
Initial Exam (non flare)

- ▶ Unaided VA: 20/20 O.D. and 20/25 O.S.
- ▶ Pupils: PERRL (-)APD. (+) AO pupil , 7mm, 7mm and 3-4+ OD and OS
- ▶ EOM: Full range
- ▶ CF: FTFC. O.D. and O.S.
- ▶ Ocular health unremarkable IOP: unremarkable DFE: unremarkable
- ▶ Retinoscopy: +0.50 -0.25 x 015. O.D. and +0.50 O.D.
- ▶ Subjective (Distance). O.D. +0.50 VA 20/20
- ▶ O.S. +0.50 VA 20/20
- ▶ Binocular Balance: O.D +0.50 VA 20/20
- ▶ O.S. +0.25 VA 20/20

Binocular Findings

▶ Binocular Findings

- ▶ Distance Vergences. BI x/4/2 BO x/4/6
- ▶ Near Vergences. BI x/6/0 BO x/2/0
- ▶ CT. 6XP distance. 2XP '
- ▶ Phorias. 2XP (dist). 8XP'
- ▶ NPC. X/6/8 (+) Suppression
- ▶ W4D. 4 dots near, far. Full room illumination and dark
- ▶ NRA/PRA. +2.50/-1.75 Visual Midline shift: up and to left
- ▶ Rx: +0.37 OU performance lenses



Initial Field

A/P

- ▶ **Diagnosis**

- ▶ Alpha Omega Pupils
- ▶ Generalized Constriction of Visual Field
- ▶ Generalized Visual Disturbances

- ▶ **Prognosis**

- ▶ R.O.'s goal was to have a reduction in migraines and HA. Also a reduction in AIWS perceptual issues
- ▶ Although I can not cure, we will try our best to help abate the migraines and lessen AIWS visual disturbances.

Treatment

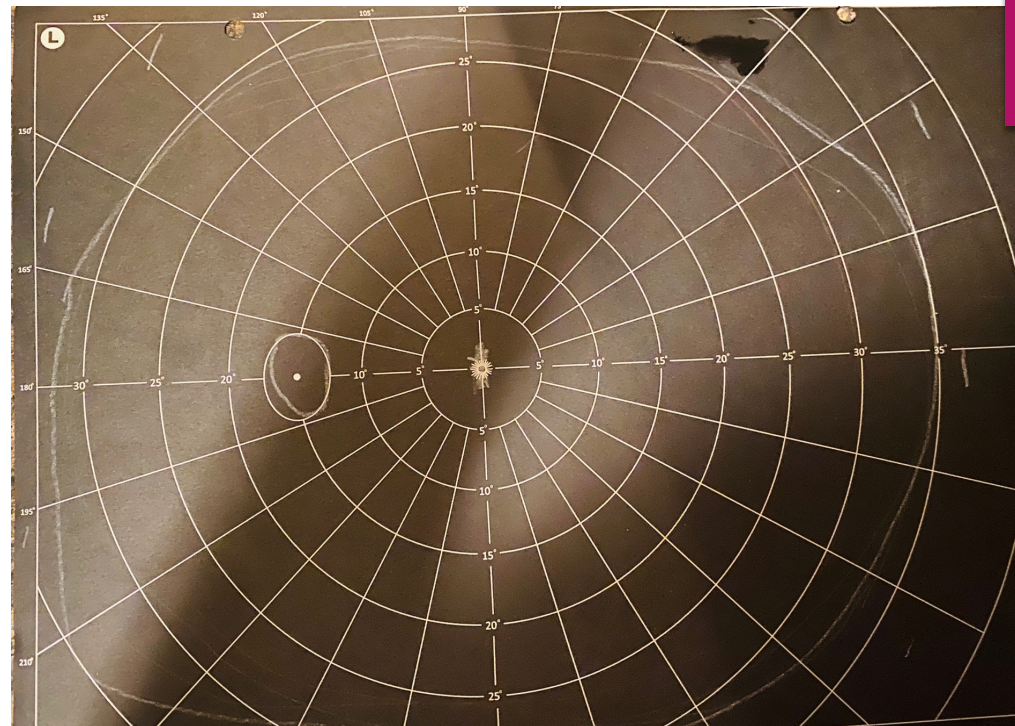
- ▶ Breathwork and Grounding with 0.5[^] yoked (in all directions)
- ▶ Sunning and Palming daily
- ▶ Mantras, Affirmations, Meditations 1-2x daily (recordings given)
- ▶ Delta Upsilon 10 minutes Mu Delta 10 minutes x 7 days in office
- ▶ Syntonics at home 5 days on 2 days off x 21 days total
- ▶

Treatments

- ▶ Lifestyle Changes (reduction in EMF, Blue Light Diet, Sleep modification)
- ▶ Dietary Changes
- ▶ Movement/Somatic Work
- ▶ Cleaned up Gut Health (Gut cleanse)
- ▶ Detox (foot bath, Castor Oil Pack)
- ▶ Lymphatic Massage
- ▶ Supplements (Mg, Omega 3, CBD, L-Theanine, B2, Vitamin D3/K2, and NAC)

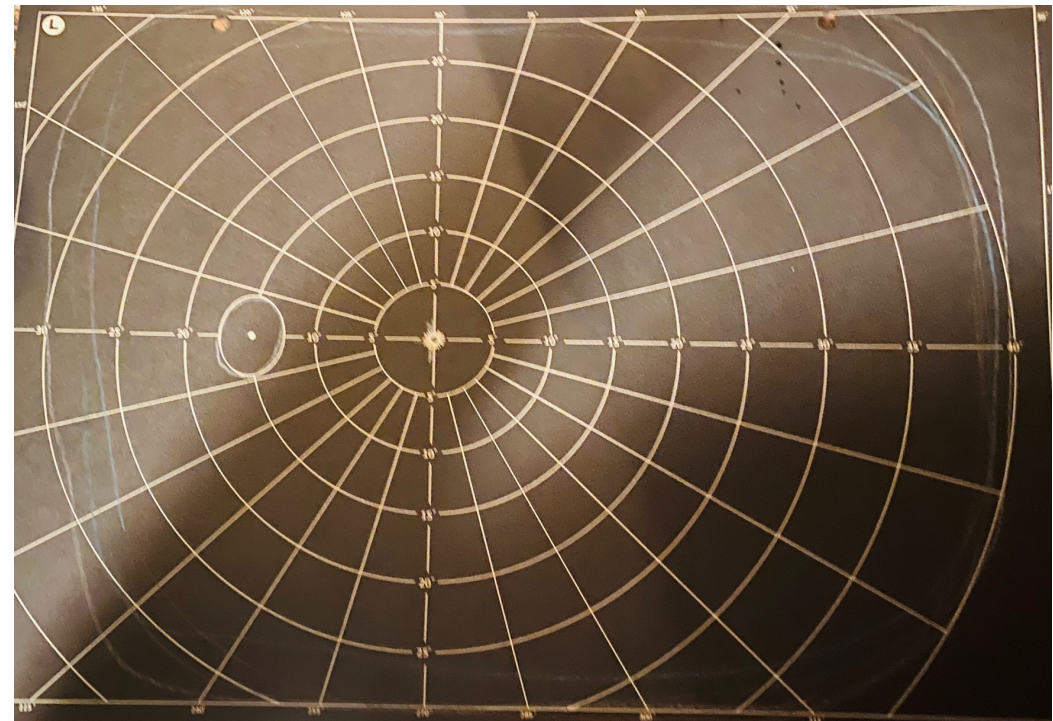
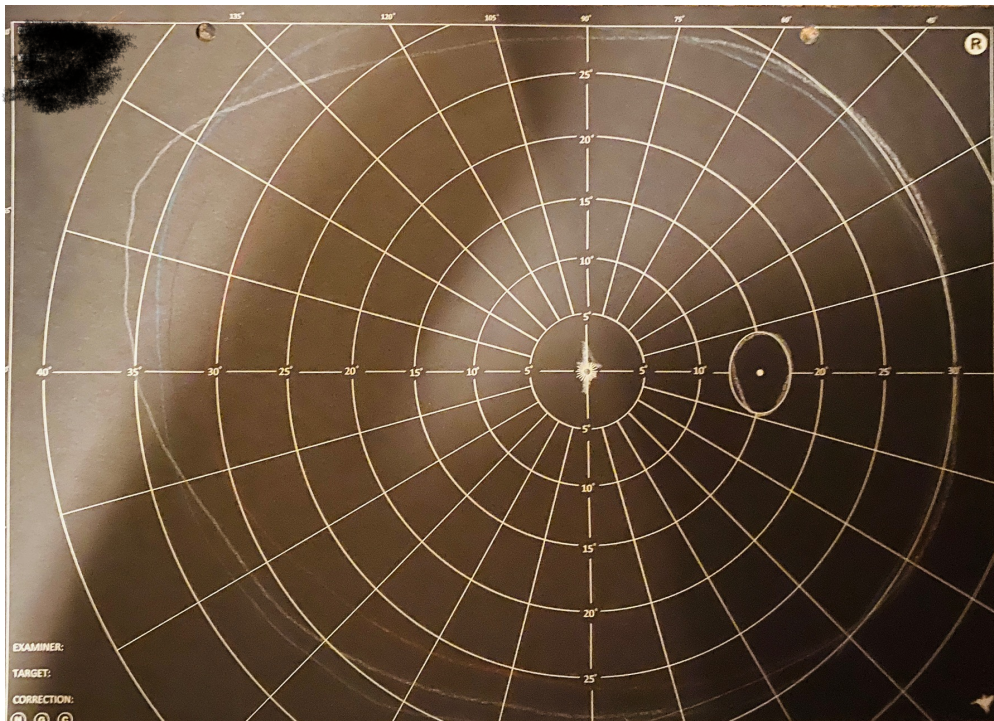
1 week follow up

- ▶ R.O. reported feeling improvement after 5 days. Her headaches decreased from daily, to 2 total in 7 days. She reported occasional breaks from the visual/perceptual disturbances
- ▶ **Binocular Findings**
- ▶ Distance Vergences. BI x/2/0 BO x/6/4
- ▶ Near Vergences. BI X/8/6 BO X/12/10
- ▶ CT. Ortho distance. Ortho '
- ▶ Phorias. Ortho (dist). 2XP'
- ▶ NPC. 8/6
- ▶ No changes made

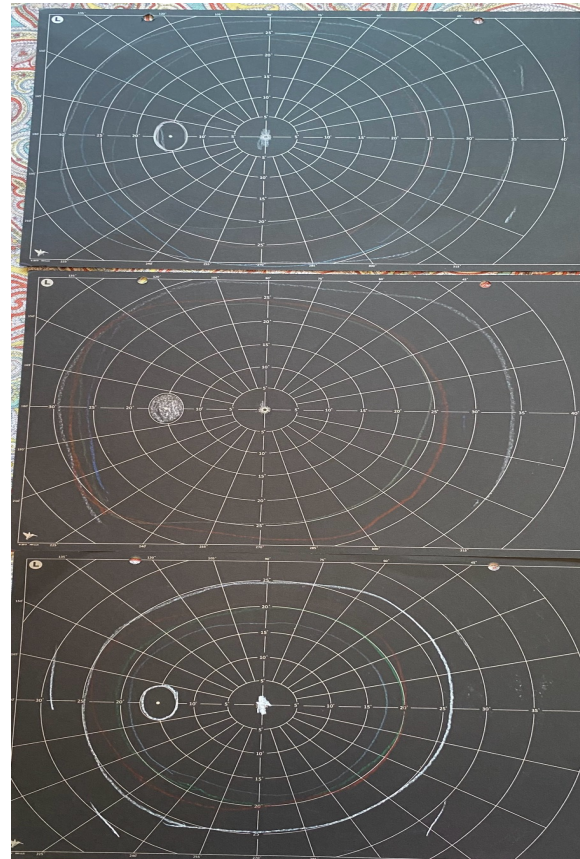
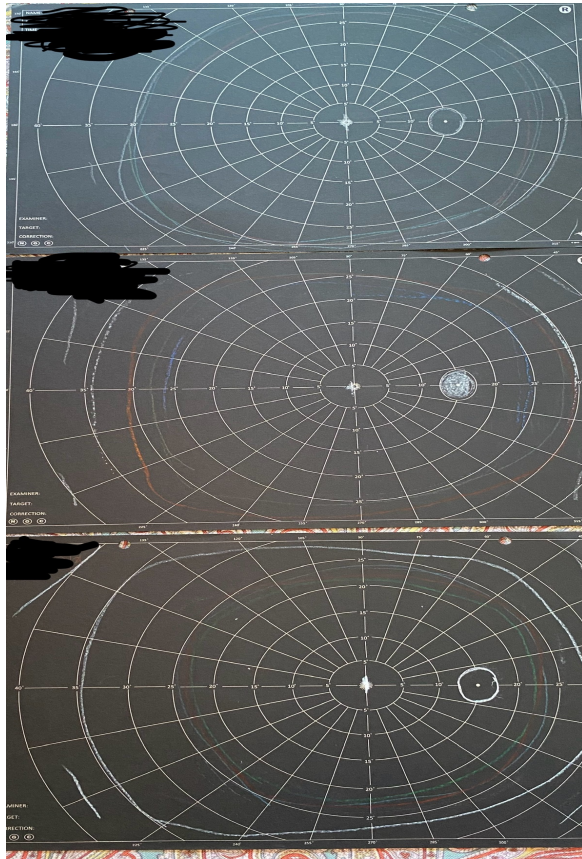


7 Day

21 Day Functional field



1 month, 3month , 6 month



Progress

- ▶ R.O. has been compliant with her treatments.
- ▶ During times of stress, illness, or lack of self care, she will come into the office for Syntonic Optometric phototherapy or other forms of PBM.
- ▶ R.O. has learned her triggers and is working on management skills
- ▶ R.O. was also sent to an accuptunrist to help with stress
- ▶ R.O. continues to come in office when migraines flare up or her AIWS flare
- ▶ R.O. was also prescribed Heart Math to complete daily

RO's words.....



Gratitude

► Thank you!

References

- ✓ NaMastria, G., Mancini, V., Viganò, A., & Piero, V. D. (2016). Alice in Wonderland Syndrome: A Clinical and Pathophysiological Review. *BioMed Research International*, 2016, 1–10. doi: 10.1155/2016/8243145
- ✓ arden, T., Meulen, B. C. T., Weele, S. I. V. D., & Blom, J. D. (2019). Alice in Wonderland Syndrome as a Presenting Manifestation of Creutzfeldt-Jakob Disease. *Frontiers in Neurology*, 10. doi: 10.3389/fneur.2019.00473
- ✓ Abe K., Oda N., Araki R., Igata M. Macropsia, micropsia, and episodic illusions in Japanese adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1989;28(4):493–496. doi: 10.1097/00004583-198907000-00004.
- ✓ Alice In Wonderland Syndrome: A Rare Neurological Manifestation With Microscopy In A 6-Year-Old Child - National Center for Biotechnology Information
- ✓ Alice in Wonderland Syndrome - AIWS
- ✓ Rastogi RG, et al. Migrainous aura, visual snow, and “Alice in Wonderland” syndrome in childhood. *Semin Pediatr Neurol*. 2016 Feb;23(1):14-17.

References

- ✓ Alice in Wonderland" syndrome in childhood. DOI 10.1016/j.spen.2016.01.006
- ✓ <https://images.app.goo.gl/dnvXutiZnt5Pqp5H8>
- ✓ Alice in Wonderland Syndrome <https://doi.org/10.1007/978-3-030-18609-8>
- ✓ Caro Lippman, 1952. Journal of Nervous and Mental Disease
- ✓ Blom JD. [Alice in Wonderland syndrome: a systematic review](#). Neurol Clin Pract. 2016 Jun;6(3):259-270.
- ✓ https://www.researchgate.net/figure/Original-figures-from-Lewis-Carrolls-book-Alice-in-Wonderland-showing-her-size-in_fig1_336070352