

The Syntonic Field

Functional/Kinetic

Mary Wong VanHoy, O.D., FCOVD, FCSO

College of Syntonic Optometry
May 15 & 16, 2024

What Is Functional Visual Field Measurement?

- ▶ **Definition:** That area which may be seen without eye movement
- ▶ A subjective examination of the sensory pathways

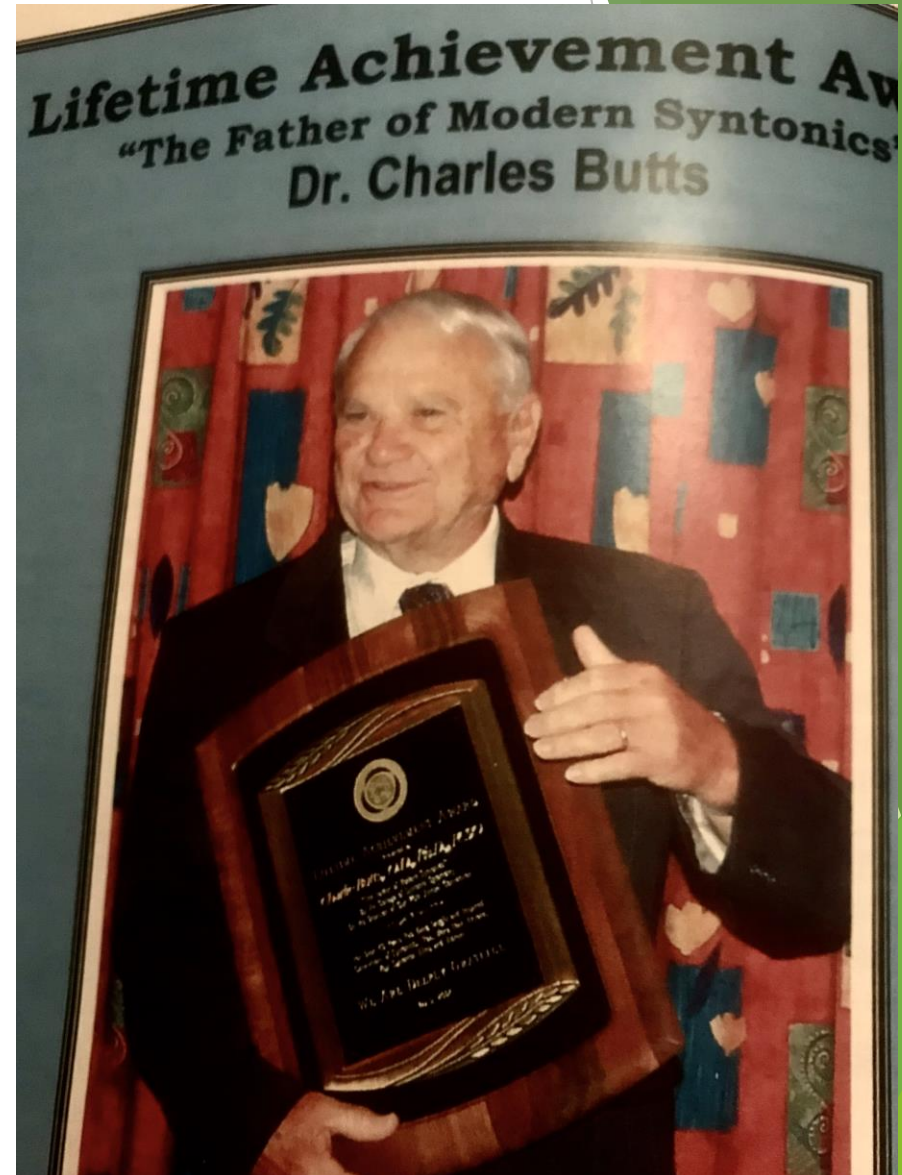
What Functional Visual Fields Are Not

- ▶ Not for detecting pathology
- ▶ Not for indicating the correct color frequencies

Why Functional Visual Fields

- ▶ To answer the question, is our vision therapy working
- ▶ To allow us to consider if the wrong frequency may be in use or the frequency may not be strong enough

Charlie Butts, OD,
Dean Emeritus of CSO



Why Functional Visual Charting in Syntonic Optometry?

Discovering and demonstrating functional vision deficits

Because

If it's VISUAL, it's OPTOMETRIC!

Samuel Pesner, O.D., FCSO

The Kinetic, Functional Field

Why Do It?

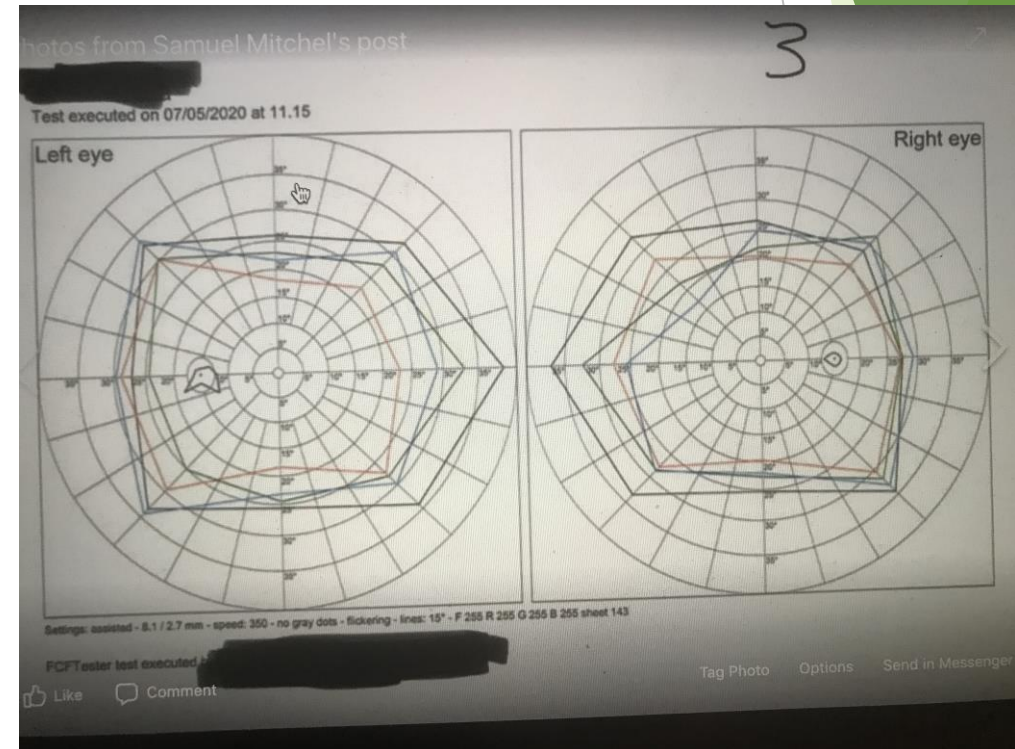
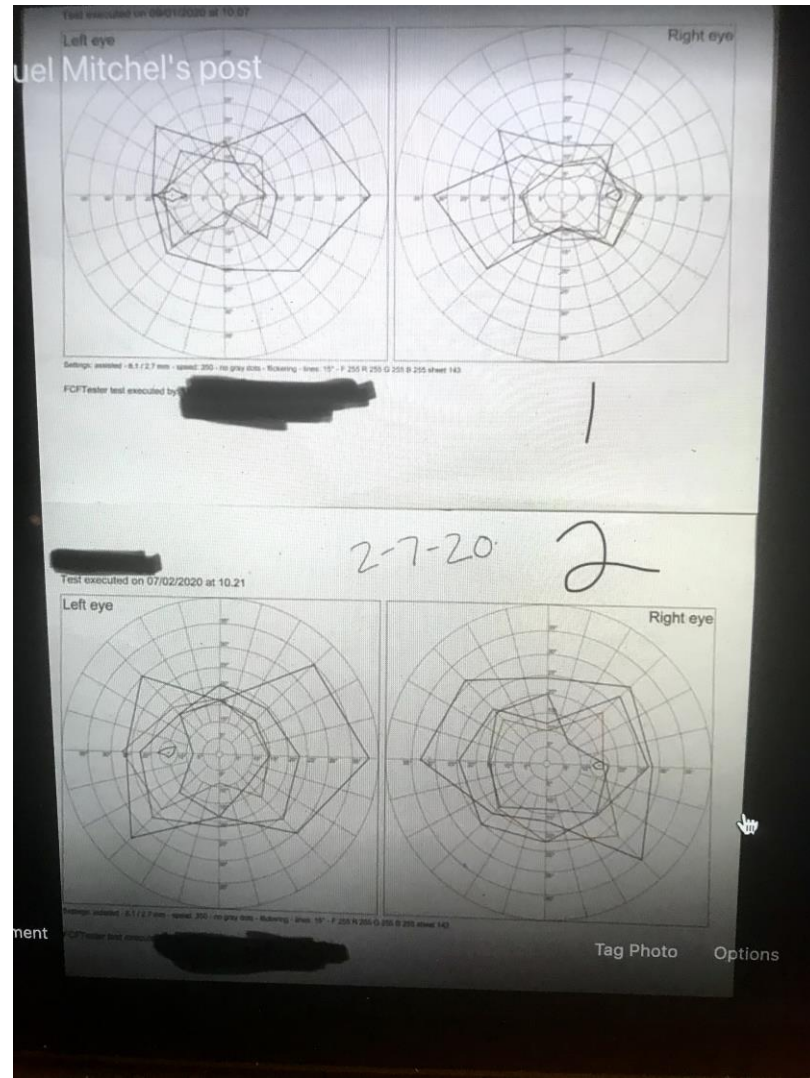
What is so unique and valuable about this field?

Why can it be used to monitor any therapies?

Often Grassroots Movements From Parents Motivate Us To Look Into Syntonics

- ▶ 8 y.o. (History: amblyopia - wears contact in right eye - diagnosed at age 6 - patched for year, ophthalmologist said nothing more to do). After light therapy, improvements in penmanship, less fidgeting and complaining of headaches during schoolwork. Also improved motor skills with catching balls, etc. Optometrist remarks noticeable improvement not only in field of vision, but also was able to make out two letters one step better in acuity. Definitely opened up field of vision. Very encouraging!

Parent Even Shared the Before and After Funtional Visual Fields



The Kinetic, Functional Field

Why Do It?

It is an extremely sensitive field measurement of visual performance and efficiency.

A compressed field affects such areas as:

- ▶ Pursuit and Saccadic fixations
- ▶ Reading speed and processing
- ▶ Handwriting
- ▶ Sports performance
- ▶ Spatial perception
- ▶ Behavior

The Kinetic, Functional Field

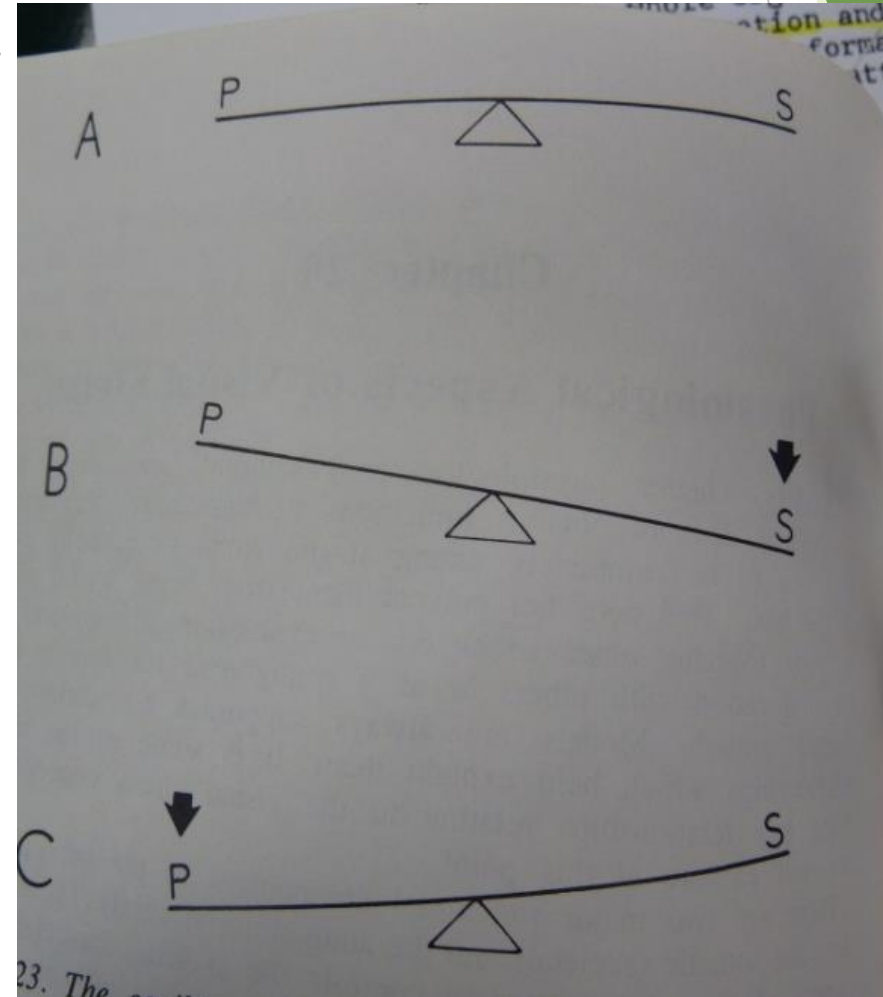
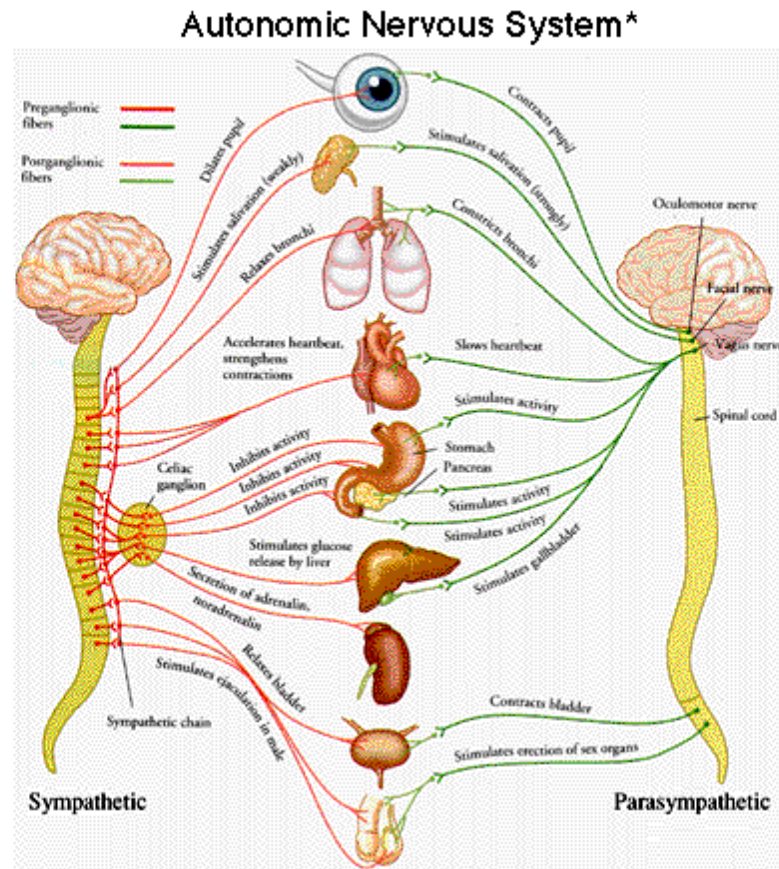
Why do it?

- Highly integrated with Autonomic Nervous System balance and function
- Is a measure of capacity of the brain to process visual information and then project the image accurately into space
- Is an assessment of how much space one is able to process and interact with at any one time affecting spatial judgments

Autonomic Nervous System

Spitler's Syntony

Brown & Benchmark Introductory Psychology Electronic Image Bank copyright © 1995 Times Mirror Higher Education Group, Inc.



ANS

Spitler's Syntony

- ▶ Balance in Change
- ▶ Harmonious
- ▶ Neural Flexibility
- ▶ Its vitality and tone determines the efficiency and quality of our ability to live
- ▶ It is the underlying basis for accurate Projection

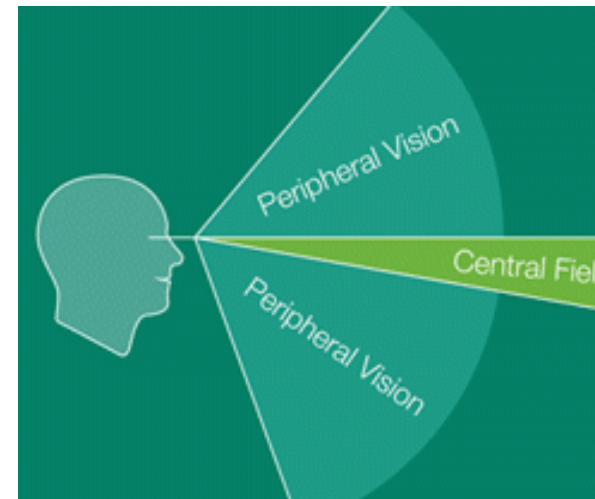
The Kinetic, Functional Field

Why do it?

- ▶ Opening a field is the key to overall wellness and accurate integration with the world and people around us
- ▶ It is the most important measurement you will do as a clinician

Vision as a process of Projection Skeffington—The Emergent

- ▶ It is a projection into and interaction with the world around us
- ▶ It includes both Input and Output as an ongoing process
- ▶ This interpretation is on ALL levels of perception that includes integration of movement through Visual, Cortical, and Vestibular processes
- ▶ “The ”What to do” is compounded out of the experiences of ALL of the inputs of the WHOLE body...and organism”
- ▶ “Stresses bring constriction in the movement patterns. The constriction IS the visual problem.”

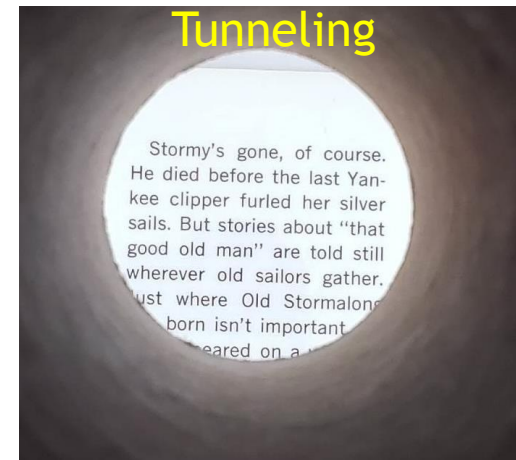
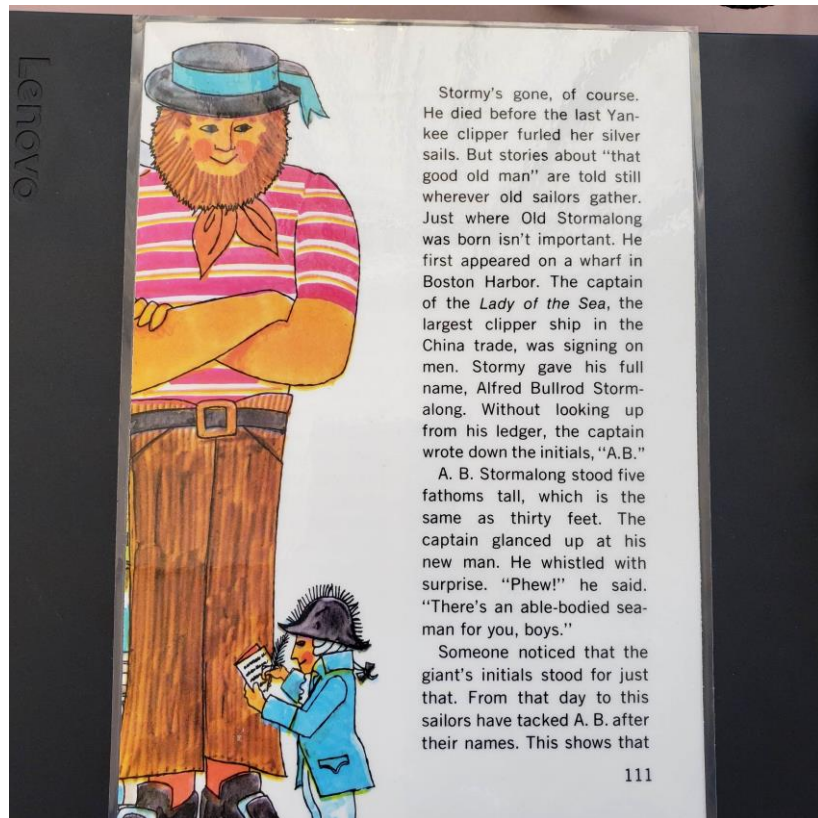


Vision as a Process of Projection Skeffington—The Emergent

Vision is an Emergent

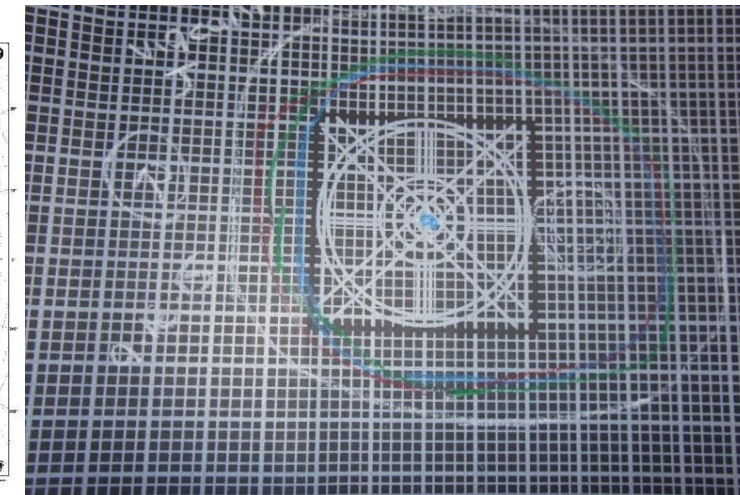
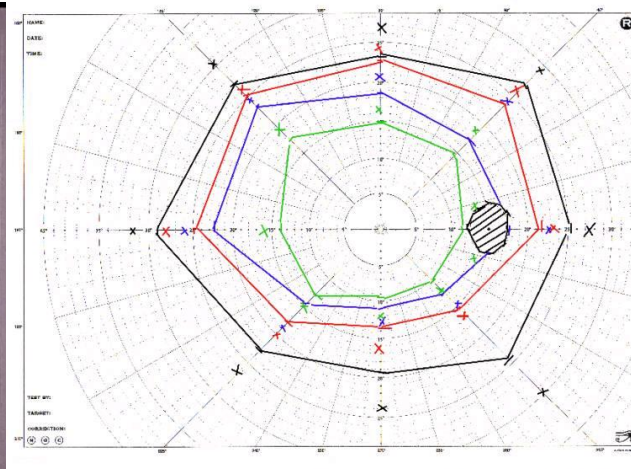
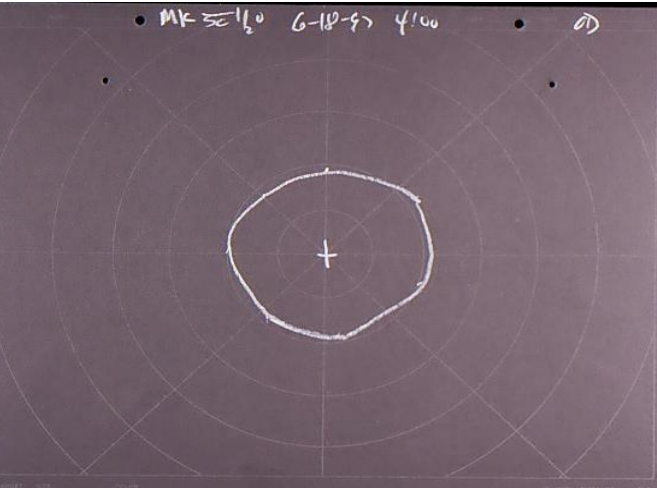
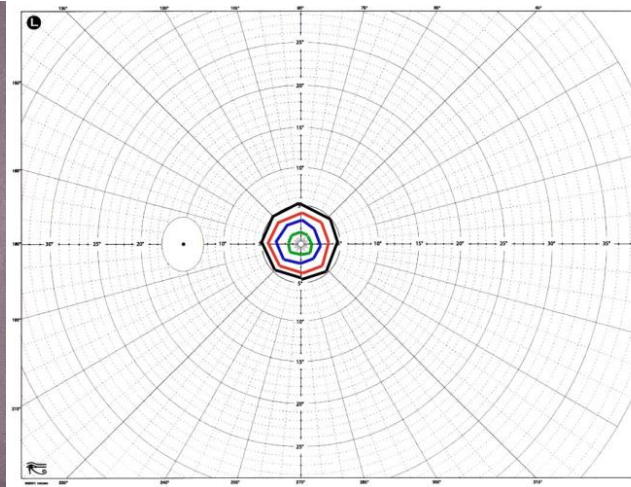
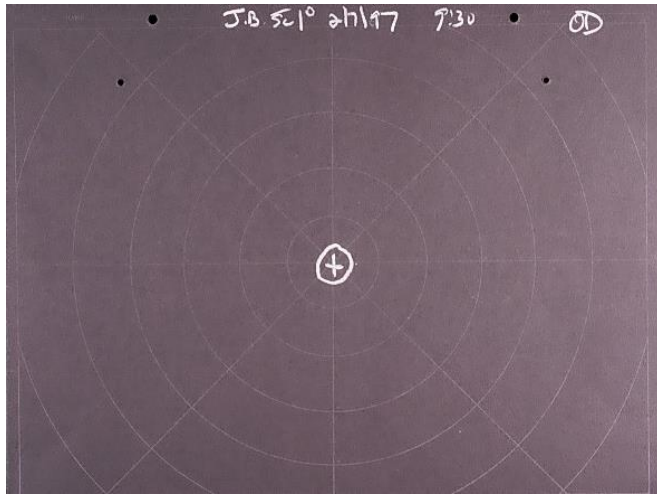
- It is projection
- It is our belief that this is what we are measuring with the Campimetric field
- "The whole cookie" Abe Shapiro

Possible Patient Perception With Visual Field Constrictions

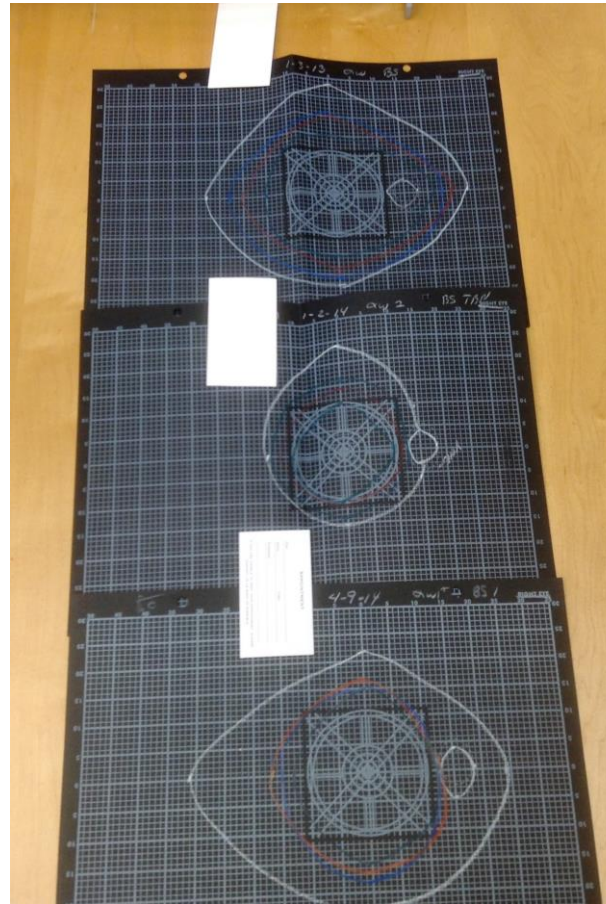
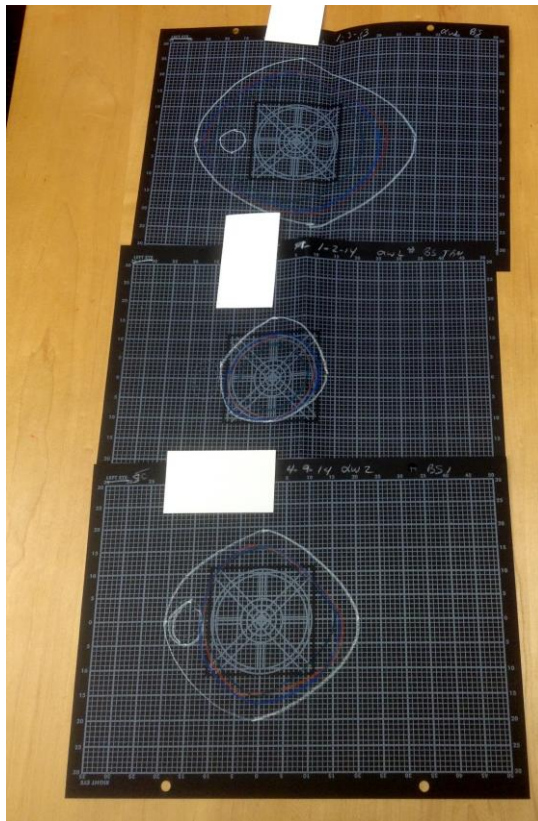


The Kinetic Visual Field

The Abnormal Visual Field



Example of Visual Fields Before and After Concussion Then After Syntonics

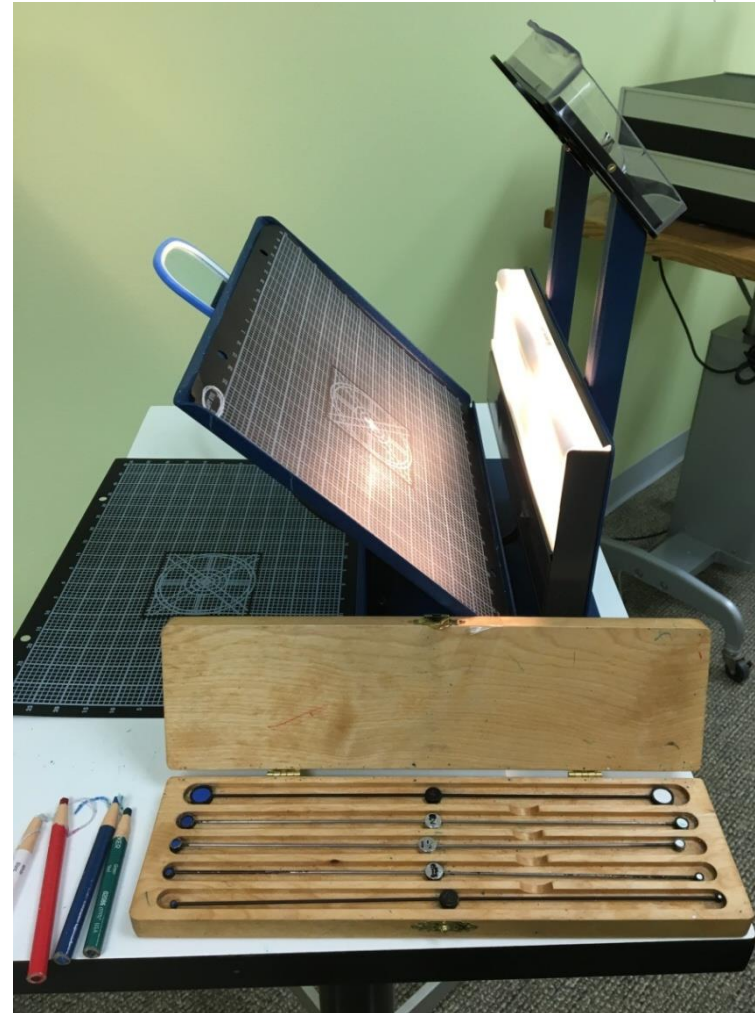


The Kinetic, Functional Field

Measurement

The Kinetic Visual Field Instruments

The C & J Stereo Campimeter

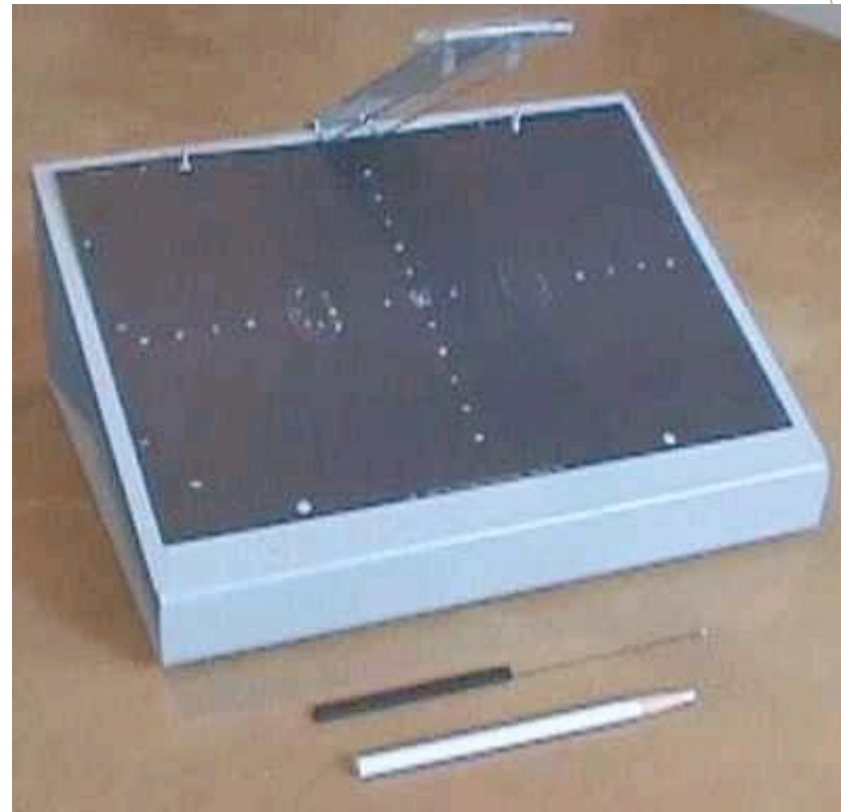


Additional Campimeter Options

Foldable Unit from Hummingbird Hues

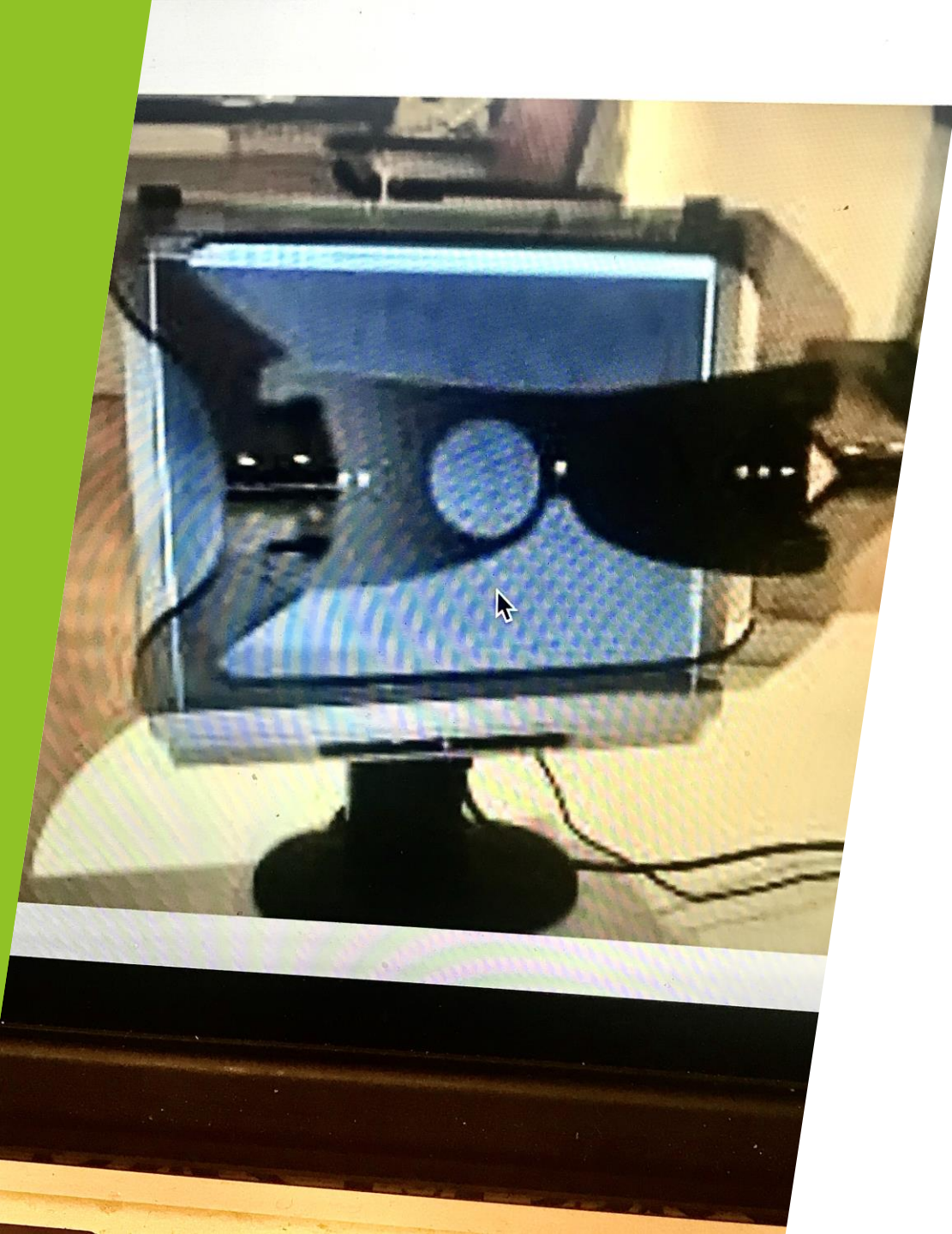


An earlier model from Florida
(no longer available)



Dr. Simon Grbevski's Versatile Fields Unit





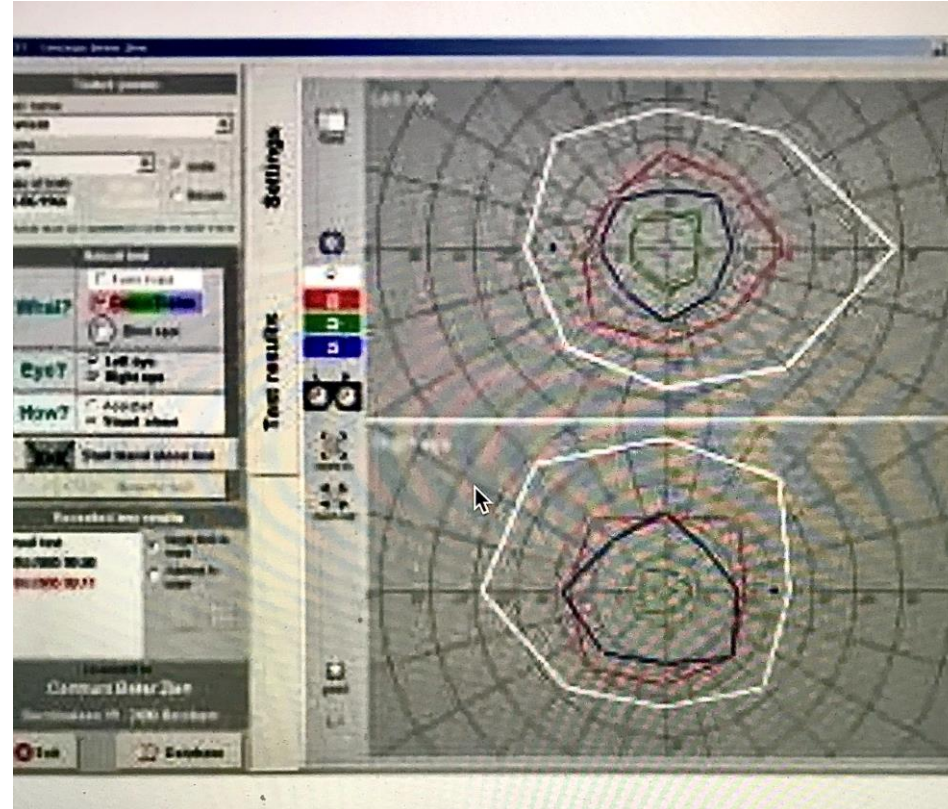
Automated kinetic field charter

- ▶ Made by Rainbow-Flash of Belgium
- ▶ Distributed by Bernell Corporation
- ▶ Utilizes a Windows based computer screen
- ▶ Offers helpful features for printing out results and controlling the lighting, central fixation target and repeat testing for any suspected errors

Example of Field Measurements with Automated Unit

Data can be stored and
comparisons of earlier
measurements available

(May ask Bernell at the break
for more details)



The Kinetic Visual Field Measurement

- ▶ Motion Field (1degree - 2.0 degree target)
- ▶ Four targets (non-seeing to seeing) (1 degree - 1.5 degree)
 - ▶ White
 - ▶ Green
 - ▶ Red
 - ▶ Blue

Blind Spot (non-seeing to seeing) 0.5 degree - 1.0 degree white target)

The Kinetic Visual Field Measurement

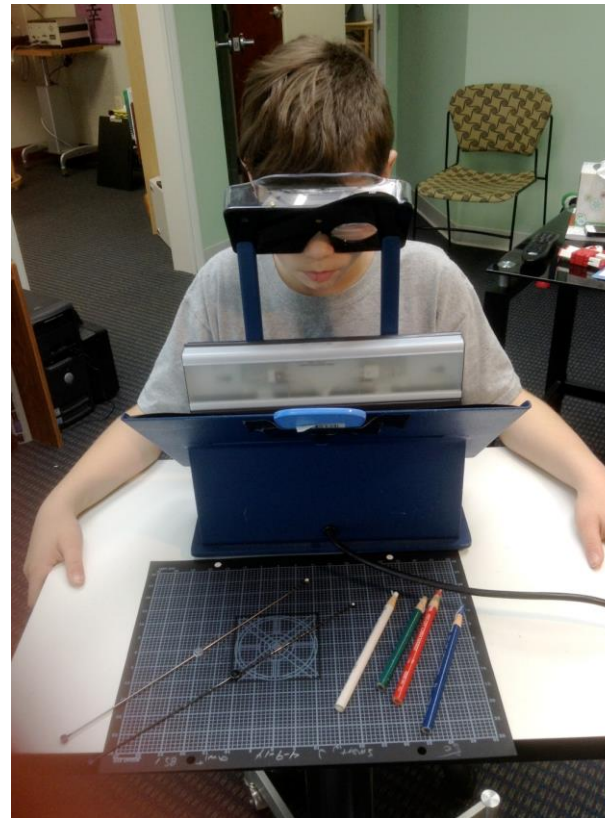
- Make sure feet are supported
- Forehead gently against head rest
- Table at comfortable height
- Hands along sides of table
- Shoulders relaxed
- Left eye occluded
- A mirror taped to top of chart holder to observe patient's fixation
- If possible, lower intensity of lamp



The Kinetic Visual Field Measurement

Label on Chart

- Name
- Examiner
- Date & Time of Day
- Which eye
- With or without Rx
- May draw on same chart
- Some prefer to document on separate chart not seen by patient
- Alpha Omega Pupil
- Brock String Measurement
- Clinical Pearl: consistency and same person if possible for re-testing



Kinetic Visual Field Measurement

1. Mark Fixation spot. White cross in center of chart
2. For Children - Face, Picture, etc
3. Key - Monitor fixation mirror - top or behind chart
4. Measure peripheral motion field with 5mm (2^0) white dot
5. Measure White (1.5 degree), blind spot (1.0 degree) and then colors with 1.5 degree target.
6. Measure overall field at least 8 points. Blind spot 8 points.

The Kinetic Visual Field Measurement

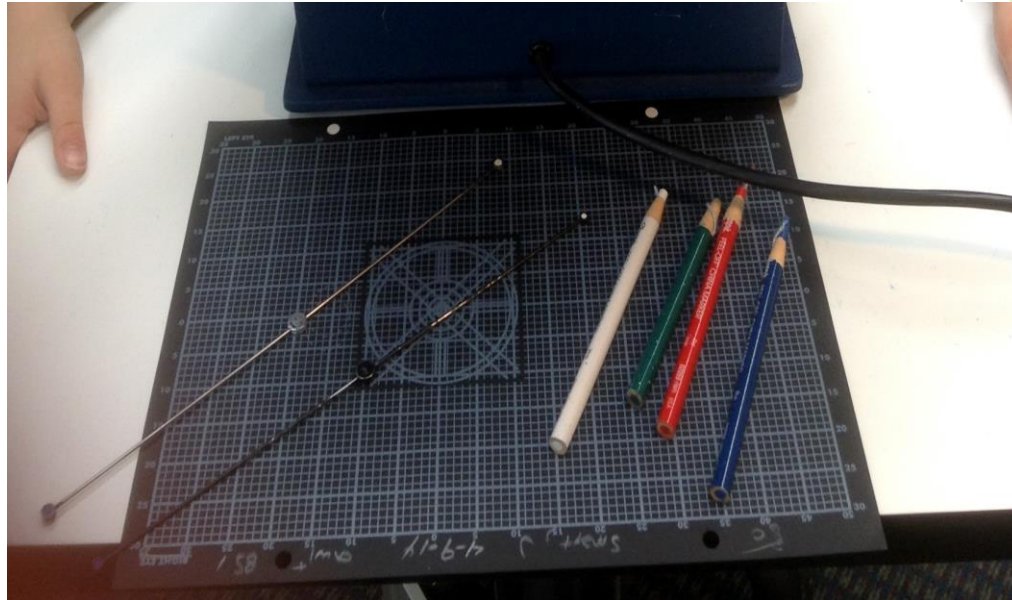
Educate Patient Prior to Test:

- General Instructions
- Always give a trial especially the colors
- Motion
- White - first aware of white target.
- Blind Spot
- Colors



Administering the Field Measurements

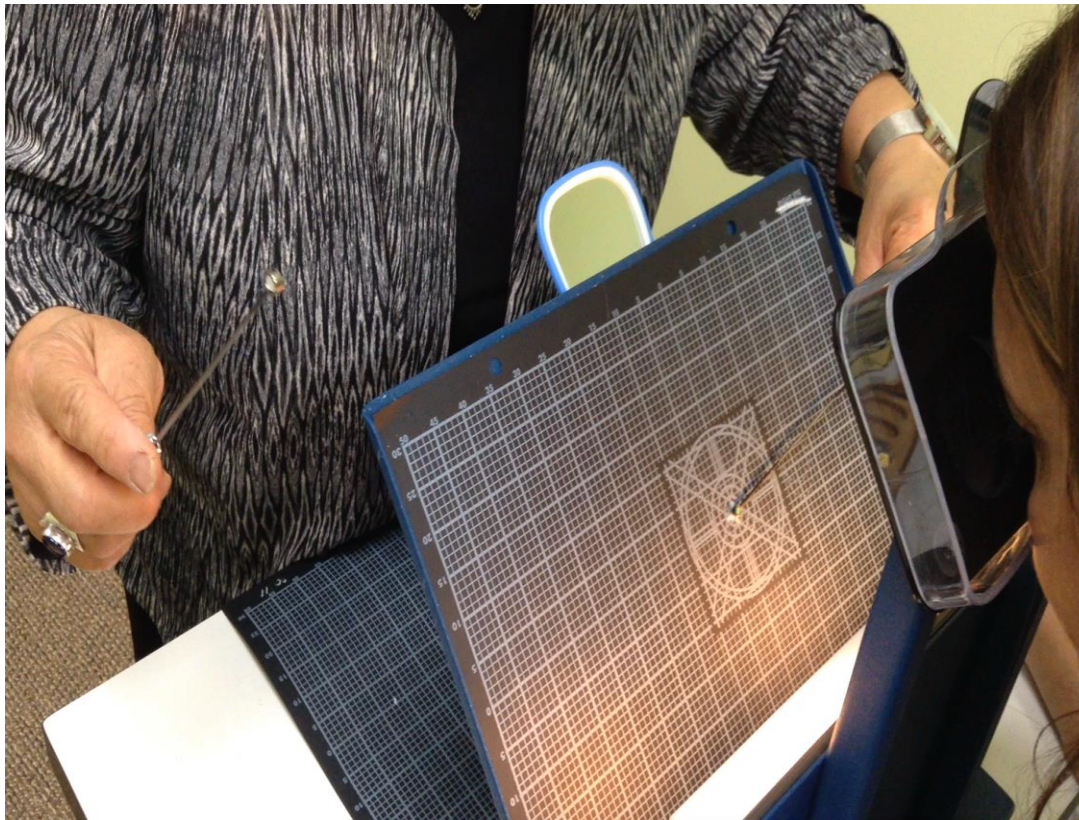
1. Make a white cross in center of chart as fixation point
2. Ensure good patient fixation by observing patient's eye in mirror at top of chart
3. Measure peripheral motion field with 5mm (2°) white dot
4. Measure white form field with 1.5 degree white target
5. Measure color fields with 3 mm(1.5°) green, red, then blue targets in this order
6. Measure from non-seeing to seeing
7. Measure 8 cardinal positions
8. Measure physiological blind spot using a 1degree white target going from non-seeing to seeing and ask when they first see the dot, do 8 cardinal positions. If using the 1.5 degree white target ask when they see the whole dot
9. Orient recording paper as patient's view



Measure Central Color Fields

1. Repeat same procedure as measuring the white peripheral form field using a 1.5 degree color target except
2. Measure green, red, then blue fields in this order
3. Place a 1degree green target over the white cross in the center of the chart for patient's fixation target and to allow the patient to better compare same color as fixation target without looking at target
4. Repeat measurements going from non-seeing to seeing
5. Try to use a consistent, steady speed of movement
6. Occasionally, wait a moment before starting the movement of the target so patient does not anticipate the target
7. Make measurement marks on the second sheet, not on the sheet the patient is looking at
8. Repeat with the red target and then with the blue target

Administering the Central Color Fields



Checking for Scotomas

When checking for suspicious scotomas, move your target in small up and down motion

1. As you approach the cross from all directions, ask if the dot ever disappears (scotoma)
2. Ask if the dot ever looks double (fluid or detachment)
3. If inside 10^0 , use a 0.5^0 target

Borish

Clinical Refraction 3rd Edition

White (form) Blue Red Green

Norms for Visual Fields

Out:	100 ⁰	75 ⁰	41 ⁰	30 ⁰
In:	60 ⁰	38 ⁰	23 ⁰	18 ⁰
Up:	60 ⁰	38 ⁰	26 ⁰	18 ⁰
Down:	80 ⁰	46 ⁰	29 ⁰	24 ⁰

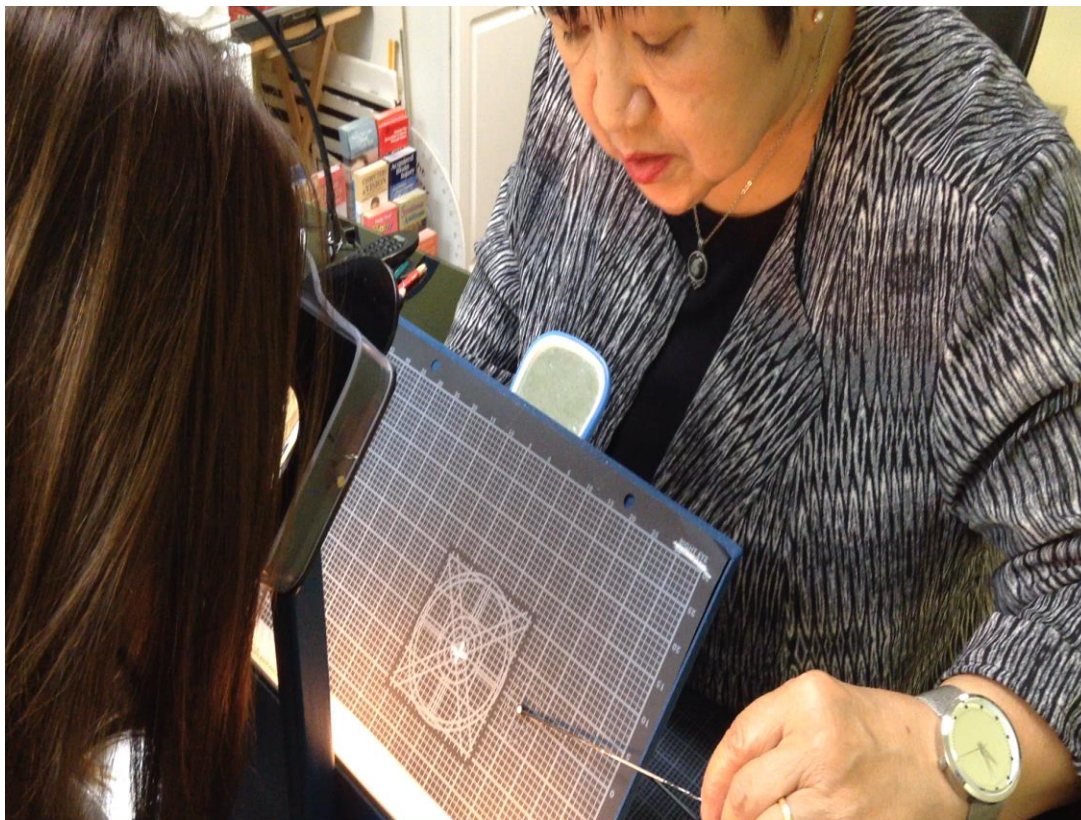
Norms for Visual Fields

Samuel Pesner, OD

(Peter & Hirschberg, 5 mm target @ 33 cm)

	Blue	Red	Green
Out	65	40	30
In	39	25	19
Up	39	26	18
Down	38	30	25

Plotting the Blind Spot



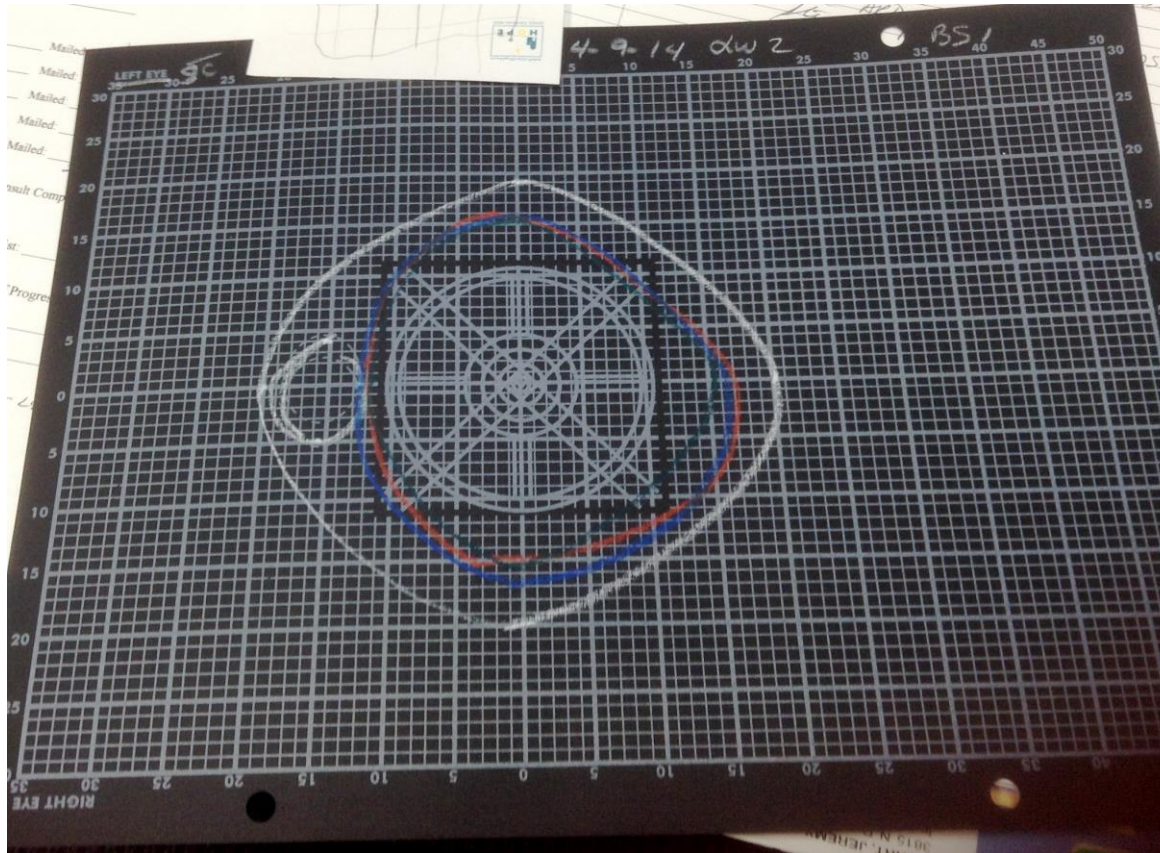
Norms for Physiological Blind Spot

- ▶ 25 mm vertically
- ▶ 17 mm horizontally
- ▶ On campimetry chart (Charlie Butts)

Physiological Blind Spot

- ▶ If fields are normal in size but blind spot is enlarged, results will not hold unless the blind spot is back to normal size
- ▶ If twenty sessions have been given and blind spot and/or fields are improved but not entirely normal in size, discharge patient for four to six weeks and then re-measure fields
- ▶ If fields remain unchanged or deteriorate, resume treatments and decide to continue with the same gentler frequency if the fields have not deteriorated or use a stronger frequency if deteriorated

Example of Enlarged Blind Spot and Interlacing of Color Fields



The Kinetic Visual Field Interpretation

Color Fields

- ▶ Test green, red, blue (smallest to largest)
- ▶ There should be no interlacing or overlapping
- ▶ When testing be aware of the patient noting the fading of color or color coming on and off.

The Kinetic Visual Field Interpretation

Motion Field

The extreme periphery of the retina capable of receiving sensations of motion without recognition of contour [motion is first form of vision - R. Melillo]

Form Field - White

Recognition of contours of an object

extent is when the patient can retain the perception of white in a stationary position

The Kinetic Visual Field Interpretation

Color Fields

- ▶ Test green, red, blue (smallest to largest)
- ▶ There should be no interlacing or overlapping
- ▶ When testing be aware of the patient noting the fading of color or color coming on and off.

The Kinetic Visual Field Interpretation - Colors

► Green:

An indicator of personal relationships, our immune systems, our lifestyles and chemical toxicity levels. It reveals our level of exhaustion. Focal infections, choroidal or retinal disease such as abscessed tooth, tonsillar infection, sinusitis, poisoning such as alcohol, drugs, paint

► Red:

Represents the physical body, the major organs,,an indication of one's physical and structural strength. Systemic chronic conditions, Diabetes, hypertension or increased white blood count causes constriction.

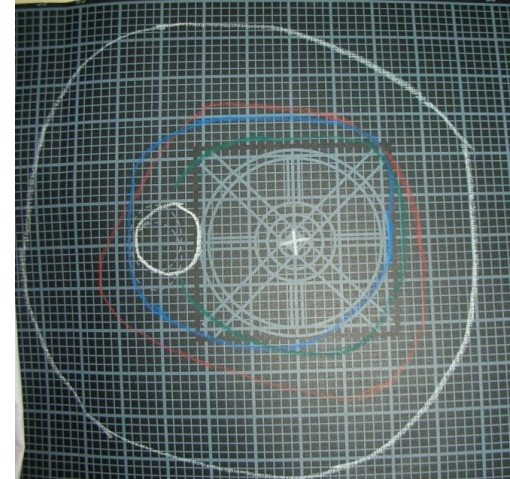
► Blue:

Related to heart/circulation, Adrenals. Both physical and emotional, "broken heart." A strong indicator of psychological stress. Can also be related to chronic respiratory and breathing issues

The Kinetic Visual Field Interpretation

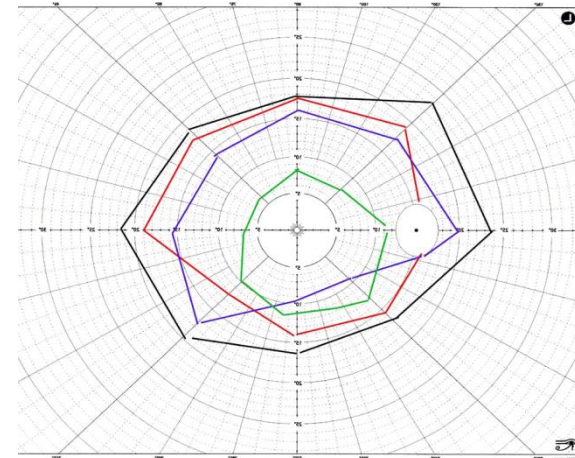
Interlacing

- ▶ Interlacing of the color fields: exogenous (outside the body) toxemias such as alcohol, drugs, tobacco, coffee, tea
- ▶ Interlacing from endogenous (within the body) such as diabetes, kidney disease, glandular conditions may also cause color field constrictions and interlacing



Low Fusional Reserves

- ▶ Lateral depressions, especially in the nasal field for red and blue only



Other Rules of Thumb

- ▶ If fields are 10^0 or less, prepare the patient before treatments that more than one series of treatments may be needed
- ▶ The longer the condition has existed and/or the severity of the condition, the greater the probability for an extended period of treatments
- ▶ When the condition is deeply embedded, not only the visual system but the physiological and emotional systems are usually also involved

When to check the visual fields

- ▶ When patient complains of discomfort when refractive and muscular status does not warrant it—could be bodily, systemic toxicity
- ▶ When fusional breaks or recoveries are abnormal with recovery low, could be some type of systemic condition
- ▶ When heterophorias are constantly varying, suspect toxemia
- ▶ If peripheral fields are not within normal limits, VT results are greatly reduced



Q & A