INTRODUCTION TO CAMPIMETRY

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A study of the functional fields is the most sensitive and rewarding way we have to monitor progress in any vision training program. With a syntonics program in particular we expect to observe measurable changes in functional fields as treatment proceeds.

The functional field study during therapy answers the fundamental question: IS OUR THERAPY WORKING? When the chart tells us "yes," it also tells us how much change we are obtaining. When the chart tells us "no", it elicits the question "why?"

We then consider whether:

a) The wrong frequency may be in use, or
b) The frequency may not be strong enough.

A campimeter or the old type Goldmann perimeter can be used to assess both functional and physiological fields. The flashing (Humphrey-type) screeners in popular use are limited to assessment of physiological fields.

Charting the Fields

A. Make sure the patient is comfortable and properly centered in front of the eyepiece.
B. Make sure the chart is properly illuminated.

1. **Establish Extent of the Functional Field**

- Use a 5 mm (1.5°) white dot as your target.
- Place a small white dot at the center of the chart, saying, "This is the cross you will look at all the time."
- Draw attention to your object explaining that although he must always look at his cross, he will sometimes "see" your object at the same time (e.g. "Out of the corner of his eye")
- Look at the cross all the time, and tell me when you first 'see' (aware of my dot moving).
- Move your target from the periphery toward the fixation cross rather quickly. Mark responses.
- Points throughout the periphery should elicit a fairly consistent response at about the same radius from the cross. If not, you may need to demonstrate how the object can disappear and reappear. To do this put your object in the blind spot area saying, "My dot should be gone now." Make the patient practice keeping the object "gone", i.e. have him practice maintaining central fixation while you move the object around within the blind spot.
- When consistent reports establish the radius of the field, you may save time by starting the object about 10° outside that radius.

2. **Assess Quality of the Functional Field**

- Work within the radius of the established functional field.
- Move your object in a small up-and-down motion. As you approach the cross from all directions ask repeatedly:
  a) "Does the dot ever disappear?" (scotoma)
  b) "Does the dot double?" (fluid or detachment)
- Inside the 10° radius use a .5° target.

3. **Plot the "Nerve head" (Physiological Blind Spot)**

- Move your object from the non-seeing area inside the blind spot to the seeing area
- If using a 1.5° dot, say, "Tell me when you see my whole dot."
- If using a .5° dot, say, "Tell me when you first see my dot."
- Mark the responses at the inside of the dot.
- Measure the vertical and horizontal dimensions in millimeters for your records. The normal blind spot dimensions on a campimetery chart are 25 mm (vertical) x 17 mm (horizontal).

4. Plot the Color Fields

- Color fields are charted in the same manner as white fields with 1.5°
- Have the patient fixate the cross. Cover the cross with your colored object, saying "Tell me when you see the color as it appears now, keep watching the cross."
- Start your object at the white field limit and move it towards the cross from all directions. Mark the point of patient response with the appropriate color.
- An alternative method is to have the patient hold a target of the same color over the cross. As you move your object toward the center, say, "watch only your own spot and tell me when my color matches yours."
- Plot green, red, and blue (in that order).

It is essential that doctor new to syntonics do all field charting themselves. They then become familiar with the procedures and with the responses of patients. During therapy the doctor sees what is happening to the patient, and observes the response to treatment. One may wish to train a technician to plot fields, but this should be done only when a doctor is experienced enough to recognize field irregularities and to decide whether to personally re-measure the fields. In many cases the patient's responses, e.g. confident vs. unsure; consistent vs. inconsistent, etc., provide additional information to the doctor which a technician may not appreciate or report.

The forgoing procedures, once practiced, are easily and quickly executed, requiring about five minutes for each eye. Optometrists who are well experienced may be able to offer suggestions for improving on this technique. I invite you to share such information – publication in the Journal of Optometric Phototherapy is the logical place.

While using the "miracle workers" of optometry (syntonic frequencies), we must not lose sight of other basic diagnostic/therapeutic tools such as the field study, the pen light test, and the size of the visual field. The simple string test provides a wealth of information about the nature of fusion and suppression under stress, and, in addition, can provide both the patient and the doctor with information about the progress of treatment.

Reminders Regarding Functional Fields

1. It is possible to encounter a patient with normal fields who exhibits an enlarged blind spot, who may present with all the signs and symptoms typical of small fields. Always check the blind spot when fields appear normal.
2. As treatment progresses and the fields expand toward normal, a scotoma surrounding the blind spot (i.e., an enlarged bind spot) will often emerge and persist after the fields are normal. Treatment is not complete until the fields and the blind spots are of normal size.
3. If, after a prescribed program of treatment (commonly twenty sessions) the fields and/or blind spot, although improved, remain abnormal, it is recommended that the patient be discharged for a period of four to six weeks. Then the fields and blind spots are re-charted. The result will indicate whether your therapy has activated a response of the "balance system". Often, progress will continue (usually more slowly) after the initiation of therapy, and you will then monitor the patient at intervals – e.g. four to six months. If the fields remain as they were or deteriorate, treatment is resumed.

Rx for Understanding the Syntonic Principle

1. Be prepared for work and study.
2. Read Spitler's "The Syntonic Principle" every three months.
3. Memorize the "Balance Board".
4. Memorize the filters and what they do physiologically.
5. Work for approximately two years, by which time you will be seeing twenty to thirty patients per day in therapy. Only then will you begin to feel familiar with syntonics and discover that "the more you know, the more you know you don't know."