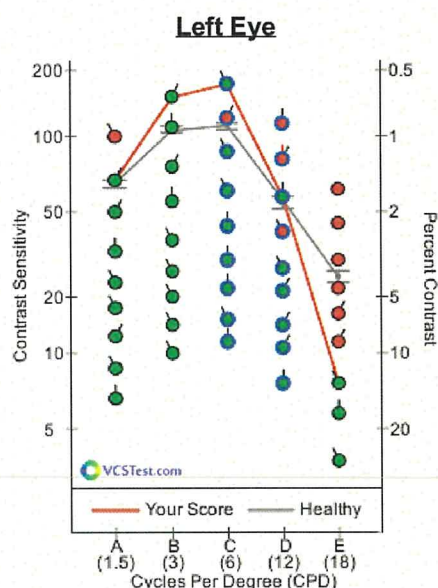


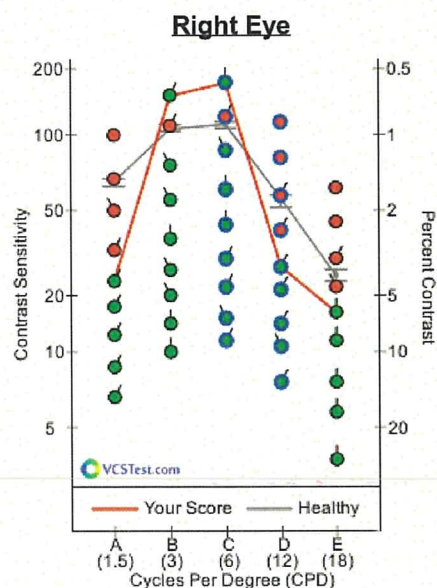
Test Identifier: aa92ce1b
Test Type: OCSTsa (2.4)
Calibration: 27/11/23 @ 12:25 (200618 134/2.24/18)

Test Date: 27/11/23 @ 12:34
Name: Nakhonwong, Nataya (kittyjung18@hotmail.com)
Acuity: Quick Test

VCS RESULTS: POSITIVE · TOTAL SCORE: 65/90 (72%) · BIOTOXIN SCORE: 27/36 (75%)



Total Score: 34/45 (76%)
Biotoxin Score: 14/18 (78%)



Total Score: 31/45 (69%)
Biotoxin Score: 13/18 (72%)

The charts above plot the results of your contrast sensitivity test for each eye. The left axes represent contrast sensitivity, the right axes represent percent contrast, and the bottom axes represent the spatial frequency of the parallel bars in the test images in cycles per degree (CPD); the higher the spatial frequency, the closer the bars.

Each circle represents an image from your test, and its position in the chart corresponds to its contrast level and spatial frequency. A green-filled circle indicates that you answered correctly when asked to identify the tilt of the bars in a test image, whereas a red-filled circle indicates that you answered incorrectly or that the image was skipped due to multiple prior incorrect responses at that spatial frequency. The black 'tails' indicate the direction of tilt of the bars, and where a response was incorrect a red tail indicates the direction of tilt you selected. There is no red tail when the response was 'Unsure', and there are no tails at all if an image was skipped. The circles in the biotoxin columns—6 and 12 CPD (columns C and D)—are outlined in blue.

The gray line represents the contrast sensitivity curve (average, both eyes) over the tested range of spatial frequencies among healthy individuals in the published research, and the red line is the curve formed by connecting the circles representing the highest contrast sensitivity images correctly identified at each spatial frequency. Higher contrast sensitivity numbers are better, and if the red line is generally above the gray line you outperformed healthy research subjects. If, on the other hand, the red line dips substantially below the gray line at any point, you may have a health-affecting condition and should consider seeing your healthcare provider.

RESULTS - OVERALL: POSITIVE

Your test results indicate that you were able to discern the tilt of the bars in the test images 65 times out of 90, for a 'Total Score' of **65**, or **72%**. As indicated above, your left visual system generally performed better than your right visual system.

Your results suggest that you may be suffering from a condition affecting your visual system, and you should consider seeing your healthcare provider, or a provider who understands contrast sensitivity testing. Note that those who have or have had cataracts may have reduced contrast sensitivity, and should be evaluated by an ophthalmologist or a healthcare provider familiar with contrast sensitivity testing.

VCS RESULTS (cont.)**RESULTS - BIOTOXINS: POSITIVE**

In the biotoxin columns - 6 and 12 CPD (columns C and D) - which are generally considered most relevant and suggestive of biotoxin-related illness, you answered correctly 27 times out of 36, for a 'Biotoxin Score' of **27**, or **75%**.

Your results suggest the likely presence of biotoxins, and/or that you could have other health issues or neuropathology. You should see your healthcare provider, or one who understands contrast sensitivity testing.

Biotoxins that can affect contrast sensitivity at 6 and 12 CPD include: toxins produced by actinobacteria, toxins produced by many species of mold, the pathogens responsible for Lyme disease and its common co-infections, dinoflagellates (particularly *Pfiesteria* and *Ciguatera*), cyanobacteria, venom from animal or insect stings or bites, parasites, and others.

Poor contrast function at 6 CPD is also correlated with both use of cigarettes and tobacco products and exposure to certain volatile organic compounds, while contrast function at 12 CPD is correlated with cigarette and tobacco use.

RESULTS - NUTRITIONAL DEFICIENCY: POSITIVE

Though conclusive data is limited, anecdotal information suggests that impaired contrast function at 1.5 and/or 3 CPD (columns A and B) may be linked to nutritional deficiency and related conditions; cigarette and tobacco use may also affect contrast function at these spatial frequencies.

In columns A and/or B you generally scored below the average among healthy test subjects; accordingly, you should consider whether nutritional deficiencies could be affecting your health.

Nutritional deficiencies can generally be caused by inadequate or inappropriate diet, poor digestion, impaired absorption or utilization, and/or by increased demand for certain nutrients.

Those suffering from chronic illness should strongly consider following an organic Paleo diet, which is often most beneficial in restoring health because it maximizes amounts of healthy, whole foods, and excludes foods known to adversely affect health. Note that in cases of illness, RDAs are often inadequate to restore health.

Poor digestion and absorption can be caused by many things, including but not limited to, and in no particular order: pancreatic insufficiency; inability to produce sufficient quantities of stomach acid; liver dysfunction and inability to produce sufficient bile (and related difficulty digesting and absorbing fats); gut microbiota overgrowths, imbalances, and/or insufficiency; candida, parasite, bacterial, fungal and other like overgrowths or infections; dietary allergies, sensitivities, or intolerances; increased intestinal permeability, known as leaky gut; exposure to toxic substances (molds, bacteria, volatile organic compounds, pesticides/herbicides, heavy metals, etc.); and others.

Increased nutrient demand can be caused by other health issues, toxic exposures, stress, and sustained strenuous physical activity, among other things.

RESULTS - OTHER: POSITIVE

Contrast function at 18 CPD (column E) is often affected in cases of biotoxin illness, and is often used to measure progress during biotoxin illness treatment, as contrast sensitivity at this spatial frequency generally improves faster than at other spatial frequencies. It is also correlated with a number of risk factors, including use of cigarettes and other tobacco products, alcohol consumption, blood lead level, exposure to certain volatile organic compounds, and age and socioeconomic status.

Your 18 CPD results are below the average among healthy research subjects, and given your results at 6 and/or 12 CPD (columns C and D), it appears more likely you may suffer from biotoxin illness.

Note that both those experiencing a Jarisch-Herxheimer, or detox reaction, and Lyme sufferers undergoing treatment with Cholestyramine and/or Welchol often have impaired contrast function at 12 and 18 CPD (columns D and E) - and also generally feel worse.

SYMPTOM ASSESSMENT RESULTS: POSITIVE · CIRS: 9/13

The VCSTest.com OCST symptom assessment is primarily based on the work of Dr. Shoemaker; generally, it takes the form of an enhanced Shoemaker Chronic Inflammatory Response Syndrome (CIRS) symptom assessment.

CIRS

The enhanced CIRS symptom assessment revealed the presence of **13** out of the 37 symptoms most commonly associated with CIRS; these symptoms are in **9** of the 13 symptom clusters developed in the research. Consequently, a CIRS diagnosis is **highly likely (>95% probability)**, and you should see your healthcare provider.

CIRS Symptom Clusters

| | | |
|---|---|--|
| 1 persistent fatigue* | 6 tingling sensations unusual sensations/sensitivity* unusual pain* tremors | 10 unexplained sweats ice pick pain* blurry vision red eyes mood swings |
| 2 physical weakness headache* light sensitivity* body aches* difficulty assimilating information | 7 sinus issues* shortness of breath | 11 numbness sensations abdominal pain* diarrhea* |
| 3 poor short-term memory poor word recall/aphasia | 8 abnormal thirst cough* confusion/difficulty thinking | 12 teary/watery eyes metallic taste easily disoriented/lost |
| 4 difficulty concentrating | 9 body temperature dysregulation frequent urination appetite changes | 13 vertigo* frequent static shocks |
| 5 joint pain* morning stiffness muscle cramps | | |

Symptoms that are present are both red and followed by an asterisk. Clusters with a red border are positive.

Responses for the CIRS symptom assessment, and up to the five previous assessments, are as follows:

CIRS Assessment Data

| | Test Date | | | | | |
|---|-----------|-----|-----|-----|-----|-----|
| | This Test | N/A | N/A | N/A | N/A | N/A |
| Symptom Count | 13 | - | - | - | - | - |
| Cluster Count | 9 | - | - | - | - | - |
| persistent fatigue (1) | 1 | - | - | - | - | - |
| physical weakness (2) | 0 | - | - | - | - | - |
| headache (2) | 1 / C | - | - | - | - | - |
| light sensitivity (2) | 1 / C | - | - | - | - | - |
| body aches (2) | 1 / C | - | - | - | - | - |
| difficulty assimilating information (2) | 0 | - | - | - | - | - |
| poor short-term memory (3) | 0 | - | - | - | - | - |
| poor word recall/aphasia (3) | 0 | - | - | - | - | - |
| difficulty concentrating (4) | 0 | - | - | - | - | - |
| joint pain (5) | 1 / C | - | - | - | - | - |
| morning stiffness (5) | 0 | - | - | - | - | - |
| muscle cramps (5) | 0 | - | - | - | - | - |
| tingling sensations (6) | 0 | - | - | - | - | - |
| unusual sensations/sensitivity (6) | 2 / CMF | - | - | - | - | - |
| unusual pain (6) | 1 / CM | - | - | - | - | - |
| tremors (6) | 0 | - | - | - | - | - |
| sinus issues (7) | 1 / CF | - | - | - | - | - |
| shortness of breath (7) | 0 | - | - | - | - | - |
| abnormal thirst (8) | 0 | - | - | - | - | - |
| cough (8) | 1 / CF | - | - | - | - | - |
| confusion/difficulty thinking (8) | 0 | - | - | - | - | - |

CIRS Assessment Data (cont.)

| | Test Date | | | | | |
|------------------------------------|-----------|-----|-----|-----|-----|-----|
| | This Test | N/A | N/A | N/A | N/A | N/A |
| body temperature dysregulation (9) | 0 | - | - | - | - | - |
| frequent urination (9) | 0 | - | - | - | - | - |
| appetite changes (9) | 0 | - | - | - | - | - |
| unexplained sweats (10) | 0 | - | - | - | - | - |
| ice pick pain (10) | 1 | - | - | - | - | - |
| blurry vision (10) | 0 | - | - | - | - | - |
| red eyes (10) | 0 | - | - | - | - | - |
| mood swings (10) | 0 | - | - | - | - | - |
| numbness sensations (11) | 0 | - | - | - | - | - |
| abdominal pain (11) | 1 / CF | - | - | - | - | - |
| diarrhea (11) | 1 | - | - | - | - | - |
| teary/watery eyes (12) | 0 | - | - | - | - | - |
| metallic taste (12) | 0 | - | - | - | - | - |
| easily disoriented/lost (12) | 0 | - | - | - | - | - |
| vertigo (13) | 1 / C | - | - | - | - | - |
| frequent static shocks (13) | 0 | - | - | - | - | - |

Red symptoms are positive. Responses range from 0 to 3; 0 is 'no/none' (negative), 3 is 'severe'. 'S' means 'skipped'.
C = 'comes and goes', M = 'migrates in the body', T = 'affected by time of day', F = 'affected by food/diet'.

Causes

The responses to the questions about exposures suggest that the following biotoxin-related causes should be considered:

- **Mold-related illness (e.g., SBS)**
- **Toxic algae bloom-related illness (e.g., Red tide)**

(intentionally blank)

NOTE: The results presented here are not diagnostic. Nothing herein should be construed as or otherwise considered medical or other advice, or as an attempt to diagnose, treat, cure, or prevent any condition, illness, or disease. All information provided is intended for research and informational purposes only and is not intended as a substitute for advice from a healthcare provider. You should not use the information above for diagnosis or treatment of any health condition, or rely on it in any way.