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## Functional Lab Testing Options

All testing is ordered through my office. Hopefully you will find this handout informational on the tests I am currently offering. I try to keep the pricing up to date, but the labs do change pricing, so please keep this in mind.

\*\* Please note, I do not recommend that all my clients need all or any of these tests. In using these assessment tools, **I am looking for underlying imbalances**, which can help find **the root causes for poor health and dysfunction**. This is different from a conventional practitioner who is identifying or diagnosing a disease. We all know that *disease free does not necessarily mean truly healthy or that optimal health is being attained*. As a functional practitioner I am always thinking in terms of **optimal function**. I work to **identify imbalances in hopes of preventing disease - ideally long before it manifests**. I also **look at the body as a whole**, understanding that no function or body part is isolated or unaffected by the rest of the body and its processes in maintaining metabolism, blood pressure, heart rate, hormone health, immune health, etc. Finally, I believe we are **all unique human beings with our own biochemical individuality** and working with my clients as a functional nutritionist allows for this type of interaction.

If you have any questions, please do not hesitate to reach out.

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### Functional Blood Chemistry Panel by Evexia Diagnostics (\$275)

*“There is no general screening test that is more efficient, effective, and affordable than a comprehensive blood chemistry panel.” Dr. Datis Kharrazian*

#### What is a functional blood chemistry panel?

- This is a Comprehensive Wellness Panel that includes the following markers:
  - **Complete Blood Count with Differential** - which includes red blood cell markers, Hemoglobin, Hematocrit, MCV, MCH, MCHC, RDW, and Platelets. It also includes white blood cells, and the differential then gives you a percentage of each of the different types of white blood cells: neutrophils, lymphocytes, monocytes, eosinophils, and basophils. (\*\*A CBC with differential will give you clues about the immune system, dehydration, some types of anemia (additional markers for anemia are included as well (B-12, homocysteine, ferritin, total iron and TIBC)
  - **Comprehensive Metabolic Panel** – which included electrolytes/chemical balance, liver, kidney, bone and mineral status. It contains 14 tests, or markers, as compared to a basic metabolic panel, which typically has 7 markers. This panel gives you information about protein and mineral assimilation, blood sugar, liver and gallbladder, renal insufficiency, dehydration and kidneys, and much more.



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- [Lipid Profile](#) – gives an overall picture of cardiac risk and can help determine if dietary changes are necessary, includes:
    - Total cholesterol
    - HDL and LDL
    - Triglycerides
  
  - A comprehensive [Thyroid Panel](#), which will help you determine your rate of metabolism, ability to make adequate thyroid hormones, and if there is a thyroid autoimmune component at play - includes [TSH](#), [Free T3](#), [Free T4](#), [Reverse T3](#), [Total T4](#), [Total T3](#), [T3 Uptake](#) as well as [thyroid peroxidase](#) and [thyroglobulin antibodies](#).
  - I also add in additional markers to look at glucose regulation – [hemoglobin A1c](#) and [fasting insulin](#) as well as glucose which is included in the metabolic panel.
  - [Vitamin D](#) – Low vitamin D levels are often found in patients with autoimmune disease, poor immune function, bone disorders, and mental health issues.
  - I also screen for inflammation and other risk factors with [C-Reactive Protein \(CRP\)](#) and [homocysteine](#).

### **Why do a comprehensive blood panel?**

- This full panel test provides us with a set of benchmarks for us to track your progress and health trends over time. This can help us attain a wellness picture and give me direction as your practitioner for healing opportunities!
- Blood work is comprehensive - we will get a good look at many functioning systems and organs in one test.
- It's a well respected test that is universally accepted by both functional and conventional practitioners.
- The markers that this comprehensive blood chemistry panel provides is by far a phenomenal value. Just a thyroid panel alone run by your doctor and put through insurance can cost around \$300 out of pocket. This panel covers that, plus many more markers that a traditional blood chemistry panel run by your conventional practitioner does not.

### **What is the difference between how I use a blood chemistry panel and your conventional doctor?**

- The main difference is that I am looking for underlying imbalances in your blood chemistry, which can help find the root causes for poor health and dysfunction. Rather than identifying or diagnosing a disease.
- We all know that disease free does not necessarily mean truly healthy or that optimal health is being attained. As a functional practitioner I am always thinking in terms of optimal function. I work to identify imbalances in hopes of preventing disease - ideally long before it manifests.



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- I also look at the body as a whole, understanding that no function or body part is isolated or unaffected by the rest of the body and its processes in maintaining metabolism, blood pressure, heart rate, hormone health, immune health, etc.
  - I also DO NOT RELY ON SOFTWARE TO ANALYZE YOUR BLOOD RESULTS!!! Many practitioners do:( By working in this way, this results in more accurate, more customized and more effective protocols and recommendations...this is something SOFTWARE CAN NOT DO!

### **How often should a Functional Blood Chemistry Panel be run?**

- I suggest once a year for a full panel and if markers are out of range a follow up of those markers in 3 -9 months. (depending on the markers that are out of range). And, after dietary and lifestyle recommendations have been suggested and implemented.

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### **[GI MAP \(\\$375\) \(stool analysis\)](#)**

#### **What is the GI Map?**

- The Gastrointestinal Microbial Assay Plus (GI-MAP) was designed to assess a patient's microbiome from a single stool sample, with particular attention to microbes that may be disturbing normal microbial balance and may contribute to perturbations in the gastrointestinal (GI) flora or illness.
- The panel is a comprehensive collection of microbial targets, which shows intestinal immune function, overall intestinal health, inflammation markers, and digestive markers.
- It screens for pathogenic bacteria, commensal bacteria, opportunistic pathogens, fungi, viruses, and parasites. As well as Helicobacter pylori, candida, Secretory IgA (sIgA), Anti-gliadin sIgA, Pancreatic elastase 1, Steatocrit, Beta-glucuronidase, Calprotectin, and Fecal Occult blood.
- We can add on zonulin if we think this is necessary, it is an additional marker to assess

#### **Who may want to run a GI Map?**

- If you suffer from the following symptoms:
  - GI distress - bloating, stomach aches, gas, belching after meals, nausea, constipation, diarrhea
  - If you have had abdominal surgery and suffer from symptoms related to GI distress
  - If you have been diagnosed with gallstones or have had your gallbladder removed
  - Someone with food sensitivities or reactions (either known or suspected)
  - A skin condition such as acne, eczema or psoriasis (gut-skin connection)
  - Auto-immune condition(s) - 70% of your immune system is in your gut!
  - Mood disorder or biochemical imbalance, such as depression, anxiety, mania, bi-polar, ADD or ADHD(gut-brain connection)



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- Hormonal imbalances - Hormone conjugation in the liver allows estrogen to be deactivated and released into the bile for elimination through the digestive tract. Healthy microflora is essential for keeping these conjugated estrogens neutralized. When the GI environment is dysbiotic, de-conjugation or reactivation of neutralized estrogen can occur. This will increase the overall estrogen load, disrupt hormone ratios in the body, and often fuels estrogen dominance in both men and women.
  - If you have taken antibiotics for different conditions or other medications that alter the health of the microbiome such as birth control.
  - The truth is any condition can be linked back to the gut because this is where digestion and absorption takes place. And, when one is not digesting, one is not absorbing. Over time, this can become chronic and nutritional deficiencies, as a consequence of malabsorption, can lead to poor health outcomes on a number of levels. I consider digestion the most important healing priority because when it is not optimal, a cascade of downstream detrimental effects are created that can lead to a plethora of health issues. Testing is the only true way to know if there is an infection – be it parasitic, fungal, viral, or bacterial. Or if there is a functional issue, meaning the digestive capacity and ability to repair itself is impaired.
  - I believe stool testing is powerful and find it is an excellent assessment tool in my practice.

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### [Mediator Release Test \(MRT\) by Oxford Biomedical \(\\$375\)](#)

#### **What is the MRT Test?**

- The MRT is a functional measurement of diet-induced sensitivities and is the most reliable test for measuring the inflammatory response to food and food chemicals. The MRT test doesn't just measure antibodies. It accounts for the widest array of inflammatory pathways by assessing the innate and adaptive immune response. The MRT test is the best way to identify food sensitivities to achieve maximum outcomes in the shortest period of time.

#### **Who may benefit from food sensitivity testing?**

- The MRT Test yields many benefits, including: uncovering which foods are causing inflammation and disease, developing a personalized nutritional guide, and improving a person's state of health and energy levels.
- Food sensitivities can cause a range of symptoms and illnesses, including:
  - Skin issues
  - Asthma
  - ADD/ADHD
  - Acid reflux
  - Leaky gut
  - Chronic fatigue syndrome



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- Arthritis
  - Hives
  - Autism
  - Migraine headaches
  - Sinus tension or cluster headaches
  - Sinusitis
  - If you are someone who thinks you have food sensitivities, I would run this test along with a GI Map, as they go hand in hand. If there are pathogens, digestive dysfunction, dysbiosis, your food sensitivities will not go away without also clearing up what is going on in the gut.
  - Ideally we would run the two tests at the same time.

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**The Following Panels are used to assess adrenal health as well as hormonal health. You will see cortisol panels are included here as well as specific panels that can help address male and female hormone issues. The panel chosen would be based on your symptoms and where you are in your cycle of life. A cycling female, versus a perimenopausal female. Or a man who is wondering what his testosterone levels are.**

#### **Who could benefit from this type of testing?**

- Someone with hormonal balance issues - for women, disrupted or irregular periods, inability to get pregnant, perimenopausal symptoms, menopausal symptoms. And for men, symptoms that correlate with testosterone (often deficiency) as well as aromatizing testosterone into estrogen.
- If you have had in the past or currently have any of the following:
  - Trauma (including early in life)
  - Poor diet (malabsorption issues)
  - Food intolerance (known or suspected)
  - Chronic illness
  - Inappropriate physical activity (too much or not enough)
  - Poor sleep
  - Circadian disruption or dysrhythm
  - Mental/emotional stress
  - Environmental toxins
  - Chronic infections
  - Anemia
  - Bone Density Issues
  - Injury
- There are some “red flag” symptoms of HPA axis dysfunction, they include:
  - Difficulty falling asleep
  - Waking up feeling tired even after 7-8 hours of sleep



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- Afternoon crashes
  - “Second Wind” late at night
  - Waking up with heart pounding in middle of the night
  - Inability to handle stress
  - Impaired exercise tolerance or recovery
  - Weakened immune system
  - “Brain fog” and memory issues
  - Extreme hunger, irritation, or agitation before meals
  - Postural hypotension (getting dizzy when standing up quickly)

**\*\*\*All of these panels use saliva for assessment and can be done at home.**

### **Adrenal Stress Panel (\$180)**

- Adrenal Stress Index™ Cortisol rhythm (Cortisol x 4); DHEA & DHEA-S; Insulin x 2 (fasting, non-fasting); 17-OH Progesterone; Gluten (gliadin) antibody, sIgA; Total salivary sIgA

### **Adrenal Stress without extras (\$125)**

- Cortisol rhythm (Cortisol x 4); DHEA & DHEA-S (125)

### **Post Menopause Hormone Panel (\$140)**

- DHEA & DHEA-S, Testosterone, Estrone, Estradiol, Estriol, Progesterone
- Can add 4 cortisol readings (\$100)

### **Expanded Post Menopause Hormone Panel (\$160)**

- Includes all PostM tests plus: Follicle stimulating hormone, Luteinizing hormone
- Can add 4 cortisol readings (\$100)

### **Peri Menopause Hormone Panel (\$180)**

- 2 saliva samples sent together
- Includes the 6 hormones in the PostM tested on each sample
- DHEA & DHEA-S x 2, Testosterone x 2, Estrone x 2, Estradiol x 2, Estriol x 2, Progesterone x 2



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### **Expanded Peri Menopause Hormone Panel (\$210)**

- 2 saliva samples sent together
- Includes the 8 hormones in the ePostM tested on each sample DHEA & DHEA-S x 2, Testosterone x 2, Estrone x 2, Estradiol x 2, Estriol x 2, Progesterone x 2, Follicle stimulating hormone x 2, Luteinizing hormone x 2

### **Expanded Cycling Female Hormone Panel (\$360)**

- Mapping of cycle with 11 samples Includes all FHP tests plus: Follicle stimulating hormone x 7, Luteinizing hormone x 7

### **Male Hormone Panel / Androgen Pathway Panel (\$150)**

- DHEA & DHEA-S, Androstenedione, Testosterone, Dihydrotestosterone, Estrone, Estradiol, Progesterone

### **Expanded Male Hormone Panel / Expanded Androgen Pathway Panel(\$170)**

- Includes all MHP tests plus: Follicle stimulating hormone, Luteinizing hormone

### **Bone Health Panel (\$180)**

- PTHrP (urine); DHEA & DHEA-S; Estradiol; Progesterone; Testosterone; Cortisol x 2; Follicle stimulating hormone