Functional Blood Chemistry Panel

All testing is ordered through my office.

** Please note, in using assessment tools, **I am looking for underlying imbalances**, which can help find **the root causes for symptoms, poor health and/or 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.

*** *I try to have the most current pricing, but pricing is subject to change if the lab changed it and I was not aware. Thank you.*

Functional Blood Chemistry Panel

(This is included in my Intensive Consultation Package)

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

Why do a Functional Blood Chemistry Panel?

- This full panel test provides us with a **set of benchmarks**, which allows 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 no**t.

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, rather than identifying or diagnosing a disease.
- My work is preventative. I work to identify imbalances in hopes of preventing disease - ideally long before it manifests. This is much better than digging yourself out of a hole!
- The body is assessed as a whole, understanding that no system or body part is isolated or unaffected by the rest of the body.
- I **DO NOT RELY ON SOFTWARE TO ANALYZE YOUR BLOOD RESULTS.**

  This results in more accurate, more customized, and more effective recommendations. We can then create protocols based on your test results as well as your symptoms...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 -6 months. (depending on the markers that are out of range). And, after dietary and lifestyle recommendations have been suggested and implemented.

What markers are included in a Functional Blood Chemistry Panel?

- **This is a Comprehensive Wellness Panel that includes the following markers: (Total of 63 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, electrolyte status, oxidative stress, detoxification, biliary status.
    - **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
- VLDL
- Non-HDL
- Cholesterol:HDL
- Triglyceride: HDL
- LDL: HDL
- HsCRP
- Apo A and ApoB - a better marker of cardiovascular health

    - Apo A - found in HDL cholesterol, provides an indicator of arterial plaque formation due to Apo A's ability to aid cholesterol removal. High Apo A may predict a lower risk of coronary artery disease.
    - Research has found that ApoB may be a **better predictor of heart disease than a standard lipid profile ordered by your doctor!** Apolipoprotein B (ApoB) is a protein involved in the metabolism of lipids and is the main protein constituent of all non-HDL cholesterol in your blood. These ApoB containing lipoprotein particles are the most damaging to your arteries and include not only LDL cholesterol but, VLDL and IDL… ALL of which promote atherosclerosis!

- 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,** as well as **thyroid peroxidase** and **thyroglobulin antibodies.**
- I also add in additional markers to look at **glucose regulation – hemoglobin A1c** and **fasting insulin, LDH** 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.
- Inflammatory markers include **C-Reactive Protein (CRP), HsCRP**

- **Homocysteine -** Homocysteine is a type of amino acid. Your body naturally makes it. But at high levels, it can damage the lining of arteries. It can encourage blood clotting, and raise your risk for coronary artery disease, heart attacks, blood clots, and strokes. High levels are associated with brain issues, such as Alzheimer's as well as cardiac issues.
- An **iron panel** and stored iron, which is found using the **Ferritin** Marker.
- Other markers included are the following:

    - **Magnesium -** There are so many reasons to pay close attention to magnesium, the fourth most abundant mineral in the human body. One of the most important ones is the vital role that it plays in cardiovascular health, from maintaining the integrity of blood vessels to keeping your heart beating. If you want to reduce your risk of cardiovascular disease, and keep your heart, mind, and body healthy, keep magnesium in mind.
    - **Phosphorus -** Phosphorus is essential in the diet and the body, where it is associated with bone structure, energy and oxygen metabolism, cellular activity, acid-base balance, and B vitamin activation. Low levels are associated with compromised nutritional status, while higher levels are associated with kidney disease, liver disease, CVD, and dementia. A diet high in processed foods and soft drinks may promote excess consumption of dietary phosphorus.
    - **GGT -** GGT is abundant in hepatocytes and is considered a "liver enzyme" as it becomes elevated in the blood when liver damage occurs. GGT is also a sensitive marker for gallbladder issues such as cholestasis, cholecystitis, cholangitis, and biliary obstruction. It can also be a sign of glutathione depletion, which is necessary for to scavenge free radicals.
    - **LDH -** LDH is lactate dehydrogenase, a type of metabolic enzyme that assists in the generation of energy, especially when oxygen availability is low. It facilitates the conversion of pyruvate to lactate and vice versa, creating an energy substrate with flexible use. Increased levels can be seen with metabolic syndrome, poorly controlled diabetes, myocardial infarction, lung disease, kidney disease, muscle

injury, infections, inflammation, alcohol, certain medications, and pesticide exposure.

- **Uric Acid** - Uric acid is a normal waste product that your body makes when it breaks down chemicals called purines. Purines come from your cells when they die. Purines are also found in many foods and beverages.High uric acid is associated with joint issues such as gout, as well as kidney stones, and most recently issues with managing blood sugar.