

Important Blood Tests

Healthy is the new wealthy! With the insurance premiums skyrocketing and deductibles that are getting higher and higher, preventing illness is even more important than before. Being healthy is becoming more fashionable and we, as consumers, vote with our dollars when we buy organic produce and decrease the number of processed foods we buy. Most insurance companies implemented the annual physical exams where if the person meets the optimal ranges for such lab markers as cholesterol and fasting blood glucose, will get some kind of reimbursement from the health insurance company. Preventative medicine approach combined with the functional medicine approach may help many of us to avoid many pharmaceutical medications later on in our lives. But besides cholesterol and fasting blood sugar levels, what would be the most important lab test markers that are worth checking every year during your annual physical exam?



First, some statistics:

- Chronic fatigue syndrome could be caused by a number of causes. Laboratory analysis may pinpoint the cause and help to differentiate and prioritise what needs to be addressed first and foremost.
- Laboratory diagnostics is the easiest way to rule out the causes that do not contribute to the health issue.
- Just one underlying symptom of chronic fatigue, such as anemia like may have several underlying causes.
- The symptoms you are experiencing are important, but, fortunately, the lab tests are easy to get and they provide a lot of information.

Chronic fatigue, stress, micronutrient deficiencies, increased insulin – these conditions will decrease the quality of life even though they will not cause someone to die right away. The above-mentioned unhealthy imbalances will become triggers of serious diseases. These triggers can be identified now before the pathology develops and it will be hard to reverse the long-standing blood sugar imbalances, metabolic syndrome, or micronutrient deficiencies.

The Most Important Labs to Be Checked Annually:

These markers will help to identify if there is inflammation, nutritional deficiencies, digestive malabsorption, and more:

- Markers of internal inflammation: CRP hs – high sensitivity C-reactive protein.
- Indicators of protein metabolism: total protein, creatinine, BUN. Suboptimal levels here may indicate a problem with protein digestion – low gastric (stomach) acid and pancreatic dysfunction.
- Diagnosis of insulin resistance and metabolic syndrome: fasting insulin and glucose, HgA1c.
- Diagnosis of leptin resistance: leptin level. The analysis will show the presence or absence of leptin resistance, which often goes along with insulin resistance.
- Lipid profile: total cholesterol, LDL, HDL, triglycerides, LDL-Particle number. Low measurements are also a reason for concern. Total bilirubin, a complete assessment of hepatic enzymes (ALT, AST, direct and indirect bilirubin, alkaline phosphatase).
- Diagnosis of anemia: just checking hemoglobin is not enough, ferritin, serum iron, transferrin, and TIBC.
- Ferritin shows iron reserves in the body. If ferritin is

low – your iron stores are low too and you may experience the first stage of anemia. Elevated ferritin is also bad as it is a sign of internal inflammation.

- Vitamin D3: vitamin D supports the function of the nervous, immune and reproductive systems. At the same time, vitamin D deficiency is VERY common not just in Michigan, but also in such a sunny state as Arizona! 9 out of 10 patients I see have suboptimal or frankly super-low levels of Vitamin D.
- Hormones TSH, free T3, free T4, TPO, and Thyroglobulin antibodies. More often than not the antibodies are not checked and ignored, while it is possible to diagnose autoimmune thyroiditis (Hashimoto's Thyroiditis).

Important Physical Assessment Markers:

1. Blood Pressure: 110-120 / 70-80.
2. Body mass index (BMI): 21-25 (low BMI is also bad – associated with a shortened life expectancy). High BMI in people who work out a lot is normal due to their increased muscle mass.
3. Heart rate (HR): 55-80 per minute.
4. Hemoglobin A1C: less than 5.5, 5.0 – ideal.
5. C-reactive protein: less than 1 mg/ml (a level higher than 1 after 60 years of age is correlated with an increased risk of stroke and heart attack).
6. Homocysteine: 6-7 is optimal, higher levels are associated with the increased risk of dementia and stroke.
7. Thyroid function: TSH 1.0 – 2.5 uIU/mL; Free T4 1.1 – 1.4 ng/dL; Free T3 > 3.5 pg/mL; Reverse T3 < 15; Free T3/Reverse T3 ratio >20
8. Vitamin D3: at least 50-60 ng/ml.
9. Vitamin B12: 600-800 pg/ml (if higher – look for Excessive Bacterial Growth Syndrome (SIB)) in the

intestine).

Ferritin (a marker of aging or oncology): 40-70 ng/ml;
if > 150 in the presence of normal iron saturation of
<45% – a marker of inflammation!