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# How to Use Blood Testing to Increase Your Resilience to COVID

Analysis by Dr. Joseph Mercola ✔ Fact Checked

## STORY AT-A-GLANCE -

- A biomarker panel can help you identify underlying chronic infections that might be sabotaging your health, contributing to chronic disease and raising your risk of severe COVID-19
- A number of infectious pathogens can trigger chronic diseases that also predispose you to more severe COVID-19. Primary culprits include bacteria involved in periodontal disease and chlamydia pneumoniae, a respiratory pathogen that 60% to 70% of older adults have antibodies against
- Chlamydia pneumoniae plays a role in several common age-related conditions, including Alzheimer's disease, heart disease and rheumatoid arthritis
- If you have elevations in white blood cell markers, then you likely have an infectious process going on in your body. There's also a direct correlation between antibody levels and the risk of disease; the higher your antibody level, the greater your risk of chronic disease
- The Health Revival Partners' panel tests for markers that are modifiable through lifestyle interventions and specific treatments for underlying comorbidities including: immune health status, clotting factors, chronic infections, tissue destruction markers and auto-antibodies

**In this interview, Thomas Lewis, Ph.D., and Dr. Michael Carter explain how biomarker panels can help you take control of your health by identifying underlying chronic**

infections that might be sabotaging your health. Lewis is a microbiologist with a Ph.D. from MIT and certifications from the Harvard School of Public Health and Carter is an integrative physician.

They run a company that performs diagnostic testing to guide patients through a process of diagnosing various ailments. Biomarkers such as D-dimer, fibrinogen, clotting factors and auto antibodies, which are largely ignored by the mainstream, can clue you in on where you lie on a health/disease continuum.

Importantly, poor COVID outcomes are rare unless you have two or more comorbidities, and in the last year, they've developed a more refined way of assessing an individual's COVID-19 risk using a panel of specific markers associated with inflammation and blood clotting.

Their testing helps YOU understand where you are on the health-disease continuum. In their model, you are not either sick or well — you are somewhere on this continuum. Find out where you are and then work to improve your status.

"Really, it's your chronic health status that helps you figure out where you are in the continuum for COVID risk," Lewis explains. The same goes for the COVID shot. According to Lewis, whether you got COVID-19 or the vaccine, the risk factors that determine whether you'll have a serious bout of COVID-19 or experience more serious adverse events from the shot are identical.

## The Role of Underlying Infections

Underlying or latent infections can play a significant role not only in chronic disease but also in SARS-CoV-2 infection. Judy Mikovits, Ph.D., has pointed out the role of retroviruses and coinfections with pathogens such as borellia and babesia in leading to less favorable outcomes in COVID.

Her hypothesis is that SARS-CoV-2 in and of itself is not the primary cause of COVID-19. She's convinced there must be a coinfection along with SARS-CoV-2 that suppresses or compromises your immune system in order for symptomatic COVID-19 to occur.

> **“Inflammatory markers and clotting markers such as C-reactive protein, fibrinogen, uric acid and sedimentation rate are strongly associated with innate immune response activity and chronic infections, which in turn correlate with COVID-19 severity.”**

Carter and Lewis have discovered a number of infectious pathogens that are even more prolific than those highlighted by Mikovits, and which appear central in triggering many chronic conditions that then predispose you to more severe COVID-19.

Primary among those are bacteria involved in periodontal disease (periodontitis). You don’t have to have oral issues or root canals to have a high burden of periodontal pathogens. The Lewis/Carter team test for these pathogens using an oral DNA home test kit.

Another is chlamydia pneumoniae, a respiratory pathogen that 60% to 70% of older adults have antibodies against. Chlamydia pneumoniae plays a role in several common age-related conditions, including Alzheimer’s disease, heart disease and rheumatoid arthritis. Unfortunately, few are ever tested for the presence of this organism.

According to Lewis and Carter, inflammatory markers and clotting markers such as C-reactive protein, fibrinogen, uric acid, the neutrophil-to-lymphocyte ratio, D-dimer, and sedimentation (SED) rate are strongly associated with innate immune response activity and chronic infections, which in turn correlate with COVID-19 severity.

> *“What's tricky about these organisms is they don't always show up from the classic acute perspective of diagnostic,”* Lewis says. *“If you talk to any infectious disease doctor that's not functional in nature, they'll say that the IgG antibody is historic. But I can guarantee you they're completely wrong.*
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> *They're not looking at things from a chronic, stealth [perspective]. Do we think chickenpox, the herpes zoster virus, is the only organism that can cause*

*problems and then go dormant and reactivate when you're immune-compromised later in life? No.*

*Every single one of these organisms has a potential opportunity to go from an acute phase to a chronic phase. Some never even express acute disease. They just hang out in biofilms and will express in the chronic phase later in life, causing disease of "unknown" origin!*

*It's called crypticity, which makes it extremely difficult to create, in the minds of doctors and researchers, the association between the disease and the exposure. Sometimes these exposures are congenital. They happened pre-birth. So, that's really the art."*

So, to clarify the hypothesis presented by Lewis and Carter, the conventional view is that these infections, once they've generated an IgG antibody response, no longer pose a threat to your body. But this isn't the case.

They can indeed lay dormant only to later contribute to chronic diseases that, on the surface, appear to have nothing to do with a pathogenic infection. The book by Paul Ewald titled, "Plague Time: The New Germ Theory of Disease," written in 2000, explains well this conundrum.

## How to Identify Underlying Infections

The clinical approach to identifying whether an underlying infection is at play in a particular disease is to look at antibody levels. Immunoglobulin G (IgG) is reflective of long-term protection and also happens to be the most common antibody, found in blood and other body fluids. It protects against both viral and bacterial infections and tends to be elevated when the infection has reached a chronic state.

Immunoglobulin M (IgM) is associated with acute responses to infections and is found primarily in your blood and lymph. It's the first antibody to be made when your body encounters a new pathogen. Carter explains:

*"Everyone has a baseline level of IgG and IgM, especially in the acute phases, but the long-term IgG, once it is above the normal background level, then in many cases, especially in those who are symptomatic with various diseases, there is reactivation of that virus, bacteria, parasite or other pathogen, what have you — any grouping of these organisms that can smolder and cause disease patterns.*

*The driver is inflammation and tissue destruction. The mechanism is simple. We all have some "wear and tear." These organisms increase wear and tear so your "repair and recovery" pathways cannot keep up.*

*We also — even without doing those IgG levels, just on our basic platform of biomarker testing — can see things in the complete blood count where, let's say our white blood cell count has a 'normal range' somewhere between 3.8 and 10.8 depending on the lab. But that's a very wide normal range.*

*Really, anything above 6.2, in terms of your white blood cell count, is an indicator that something is brewing. When we start looking deeper at the neutrophils, the lymphocytes, the basophils, the monocytes and eosinophils, when those values are increased or decreased beyond the optimal range, we can tell that there are critters being unruly even though you don't have fever, chills or a classic increase in white blood cell count.*

*So, we know that these pathogens are present in everyone. It's really incumbent upon your own immune system to be vigilant to keep them at bay and stop them from replicating."*

In summary, if you have elevations (or suppressions) in white blood cell markers, then you likely have an infectious process going on in your body. There's also typically a direct correlation between your antibody level and the risk of disease, so the higher your antibody level, the greater your risk of chronic disease and poor COVID / JAB outcomes.

PCR testing can be useful for identifying a specific pathogen. However, if excessively high cycle thresholds (CTs) are used (as has been the rule when testing for SARS-CoV-

2), the test becomes useless, as it can find even a single molecule if run at a high-enough CT. So, the CT needs to be below 26 to avoid false positives.

## Review of Lewis and Carter's Research

Before we go further, here's how Lewis describes their research, and how it can improve your health and medical decisions:

> *"Carter and I are not researchers. We like to fancy ourselves translators of best clinical research. There's really great science published, but medicine is a business decision. Less than 1% of the great medical research makes it to clinical practice.*
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> *We had the opportunity to evaluate 100 people at a Fortune1000 company. Based on that, we made an assumption that, because of their health status, 42 of them had some sort of an infectious process.*
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> *So, we were given license to test IgM, IgG, bacterial [and] viral. Forty-one of 42 were positive using our testing. Now, we're not looking for everything in the universe. We're telling the lab what to look for: what we call 'usual suspects.' Some of them had IgM and IgG, and some of them just had IgG with a negative IgM for a single or multiple pathogens.*
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> *When we treated them over nine months, everyone got better. What was remarkable is IgG levels [indicative of chronic infection] came down. When someone had a negative IgM but a positive IgG and symptoms, and their IgG level came down, they got better too. This proves that IgG is indicative of the presence of a "hidden" but chronically active infection.*
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> *So that's not an extraordinarily scientific evaluation, but it's completely consistent with the work of folks like Charles Stratton out of Vanderbilt, who's written about chlamydia pneumoniae and its three different life forms."*

*There are many other researchers and clinicians who have come to this conclusion. Lewis and Carter are in the process of publishing a peer-review medical paper that references many other publications explaining how important an IgG antibody test is.*

## Treating Chronic Versus Acute Infections

Carter and Lewis have developed a pretreatment program, followed by a variety of treatment strategies aimed at chronic infections. As you might expect, the chronic infection treatments involve more aggressive approaches, and will depend on whether the infection is caused by bacteria, viruses or parasites.

The biggest factor for effective treatment is eradicating pathogens hiding in biofilm, which takes time. (We do not address the use of specific remedies in this interview, as each patient must be tested, seeing how there's such a broad array of potential causal factors.)

As noted by Lewis, even if you use a broad-spectrum anti-infective, such as ozone, you'll rarely eradicate enough of the chronic phase of these organisms, as they shelter inside biofilms or inside your cells — including your white blood cells. that are very difficult to get into. These pathogens are often referred to as "obligate intracellular pathogens." The "obligate" part infers that these harmful organisms rob your energy by mimicing to be your mitochondria. He explains:

*"For long periods of time, you have to maintain a physiologically anti-infective dose. The other piece of it that we've learned, [and which] everybody knows much better now because of COVID-19, is the inflammatory component. There's no question that the inflammatory response can override, go too far, even in chronic conditions.*

*There's a brilliant paper by Australian groups that talk about cytokines, anti-inflammatory treatments and their clinical relevance.*

*The biggest problem we face is that, if you bang your elbow and your brain at the same time with the same sort of force, your elbow will recover in a couple weeks, but the brain perpetuates inflammation much longer, and sometimes forever. Consider traumatic brain injury as an example. It happened one time a while ago, but your brain stays "inflamed."*

*So, every treatment has to consider an infectious [risk], has to consider lifestyle risks, and help you optimize those things. But generally, there has to be a very strong anti-inflammatory component, which … has to be rigorous and continuous. That's the big challenge …*

*Dr. Stratton at Vanderbilt has shown that these organisms can live in an elementary body, a reticular body, and a "cryptic" phase. In some of these phases they're completely refractory [i.e., resistant] to antibiotic treatment …*

*J. Thomas Grayson, 95 years old, [a doctor of] preventive medicine at University of Washington … showed that … when it comes to organisms like chlamydia pneumoniae, you have to treat for one year. That's scary for people, so what we do is we do three-month segments and then retest. Obviously, we measure for symptoms, but also the IgG."*

## The Role of Vitamin D

A basic intervention that is really important for shoring up your immune system is vitamin D. Vitamin D is really a pro-hormone and hormones regulate physiological processes. I believe vitamin D optimization — making sure your blood level is between 60 ng/mL and 80 ng/mL (150 nmol/L and 200 nmol/L) — is one of the easiest, least expensive and most important things you can do to avoid infections of all kinds, including COVID-19.

The activated form of "vitamin" D is produced in your liver when you have an infection and it is strongly antibiotic. Lewis and Carter recently completed a study in which they looked at the vitamin D level compared to neutrophil and lymphocyte ratio. Lewis explains:

*"Neutrophils go up with bacteria. Lymphocytes often go down with viral infections, so [your neutrophil to lymphocyte ratio] is sort of a measure of your overall infectious burden.*

*What we did recently, and we're putting this into a paper we'll be publishing, is a study of neutrophil-to-lymphocyte ratio versus blood 25 hydroxy vitamin D levels. We saw a very clear linear relationship between a bad neutrophil to lymphocyte ratio count and low vitamin D, and then just the opposite."*

They've also found a similar correlation between chronic infection and free cholesterol (not total cholesterol). This correlation appears particularly strong in those with cancer, who typically have a free cholesterol level of 50 ng/mL and above. An optimal level is thought to be somewhere between 5 ng/mL and 20 ng/mL, with the healthiest of people typically falling between 5 ng/mL and 15 ng/mL.

When free cholesterol is elevated, you're more prone to tissue destruction, as cholesterol is an important repair molecule. Since your cholesterol level can indicate your tissue repair capability, it is also included in Lewis' and Carter's COVID panel.

*"Cancer patients are, I think, just the tip of the iceberg in terms of people that have some virulent infectious process that is destroying tissue,"* Lewis says. *"I'm pretty sure we're going to see a very strong correlation to your free cholesterol number as part of the portfolio of tests you want to do to investigate what is going on inside your body."*

## How Do You Know if an Infection Is Chronic?

One way to determine whether you're suffering from an acute or chronic infection is to look at the half-life of the factors being measured. Lewis explains:

*"If you take a test now and in three months and you see a sustained trend of biomarker elevation, that's obviously a way to relate it to chronic infection. But in a single test, every biomarker has a half-life. Red blood cell distribution width, because it's tied to red blood cells, it'll stick around for four months.*

*It has a much longer half-life than say C-reactive protein. If you bang your knee, [C-reactive protein] will go way up, then come down with the half-life of one and a half days.*

*Fibrinogen is seven days. When you understand half-lives, then when you look at a single lab and they're all elevated to sort of the exact same extent above what we consider our baseline, then we know it's chronic, or at least with a very educated guess, that it's in the chronic phase."*

## What's in the Panel?

Speaking to the issue of what the panel Lewis and Carter developed contains, Carter explains:

*"A typical panel … is a very concise panel of blood biomarkers. We expand that with the inflammatory markers that really play a role [in chronic infections].*

*So, if your homocysteine and C-reactive protein are up, these are key inflammatory markers that many people are walking around with that are high and that are really directly causing toxicity to the [blood]vessels, [thereby] leading to coronary artery disease, stroke, Alzheimer's and a whole host of things. Almost every chronic disease starts in the vessels — more specifically the capillaries.*

*High sensitivity C-reactive protein is another inflammatory marker that when elevated is really indicative of pathogens in the mouth, among other things. That is one thing that is totally missed by traditional doctors [but] is a key component. The oral testing we do includes Interleukin-6 that tracks closely with C-reactive protein.*

*If you've had root canals or wisdom teeth taken out, or have bleeding gums, [we can] test to see the vast array of pathogens that we know are associated with pretty much every disease syndrome out there.*

*So, we take these things that have been invisible to the masses and bring it at an affordable cost structure. We have a very robust panel of 55 biomarkers that runs about $150, including vitamin D … If you were to take that same panel, it would be $400 to $500 if you were to go directly to LabCorp.*

*However, we highly recommend you get this testing from us with a one-hour consult included because of our unique way of explaining the "story" behind your biomarkers — and what you can do to take control of your health. Even with the consult, our pricing is less compared to the labs alone from most places."*

In addition to helping you evaluate your chronic disease risk, this panel will also help you assess your COVID-19 risk. They also offer an advanced panel that is even more comprehensive. It costs about $400 and includes a one-hour consultation to help you understand what all the markers mean.

As noted by Lewis, "It's all about where do you lie on the health/disease continuum. We very accurately are placing people on that, and there's not a marker we test for that's not modifiable through lifestyle or other appropriate interventions. We're not treating symptoms. We're going right at the disease."

## Where to Get the Panel

If you're interested in ordering this panel, go to **HealthRevivalPartners.com**. If you want to get the comprehensive COVID / JAB risk screening panel, go to **www.healthrevivalpartners.com/post-jab-tests**. You will be asked to fill out a questionnaire, after which you receive a requisition to have your blood drawn at a LabCorp.

The report you get will be a comprehensive and detailed report from Health Revival Partners in addition to the standard lab report. Carter explains:

*"It really starts with the initial questionnaire and we give you a grade from A to F. We wanted to make it so that the average person could really see what is*

*going on in a very tangible fashion. Obviously, you answer 125 questions that are much more probing than your traditional questionnaire.*

*If you end up with a grade of C, D or F, then that tells you your report card of health is not so good. Then we give guidelines on those questions. When you do your biomarker test, we give you a temperature. It's called your chronic disease temperature and of course 98.6 is a normal temperature.*

*When we do the biomarkers, we look at optimal ranges, not just normal ranges. We want everyone to be optimal, not just normal. When those values are either too high or too low out of the optimal range, then you get a corresponding increase in your temperature.*

*Our "normal" ranges are best on early mortality data for each biomarker. Our normal levels are much tighter compared to the standard of care. We are looking for chronic (smoldering) whereas they are only looking to see if you are very sick or acutely sick.*

*So now you can have a temperature of, say, 103 based on high homocysteine, high C-reactive protein, high fibrinogen, high white blood cell count and various other biomarkers. We're testing 55 biomarkers, but 21 of them really home in on and create that temperature setting ... Even more biomarkers are part of the COVID panel.*

*When you correlate that to COVID, we have a little analogy of what's in your glass. If your glass is a quarter-full, half-full, three-quarters full, you could be walking around with all of these different things: toxins, pesticides, subacute infections.*

*When your glass gets full and overflowing, then generally that's going to express as disease. We show where people are on that continuum. How full is your glass of these different things? With the biomarker panel, that gives us a great window [into your COVID risk]."*

## Building a Stronger Foundation for Functional Medicine

Again, to learn more, and to join the Health Revival Partners' chronic disease support program, go to **HealthRevivalPartners.com**. In closing, Lewis notes:

> *"Integrative and functional medicine is like herding cats. They got into that because they're outliers, but I've been trying to get some of the highest-level leadership in functional medicine to create a core standard of labs that every doctor takes because the biggest reason why you're not getting served well in medicine today is because the dark side is saying we don't have the evidence.*
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> *One of Carter's and my life's goals is to herd the functional integrative cats together to build standards, and I think we've done a very good job of creating a very important end-point standard that I think anybody could hang their hat on. That's early mortality. So, we really want to do that.*
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> *"The other part of it is we wrote a peer-reviewed paper[1] last year, and we coined the term the 'pre-cytokine storm.' Carter talked about your glass being a quarter-full, half-full or overflowing. Measuring your pre-cytokine storm — which our panel incorporates, and then our COVID panel expands even more, so either of those panels are available to anybody that comes to our site — will tell you what your risk factors are.*
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> *Your blood doesn't lie. So, what I'm hoping people will do is become part of the solution. Take the COVID and the vaccine survey, get your COVID risks labs drawn, and then we'll be able to report back to you and publish peer-reviewed articles about this correlation that right now we're all being marginalized on because we're not creating enough evidence.*
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> *Judy [Mikovits] knows exactly what's going on, but to convince the world, we've got to get more conventional and functional lab data in large sets to prove our point. That's how we're going to start winning, with evidence-based functional medicine."*

## Sources and References


- [1] Emerg Infect Dis Diag J. Vol 2 Issue 3. May 8, 2020