Lesson # 2 – “Normal” Is Not Optimal

In the last lesson you learned why Functional Blood Chemistry Analysis (FBCA) is the ultimate Functional Medicine screening test. Today we’re going to dive in to why “Normal” is not Optimal when it comes to analyzing blood test results.

Guess what test every one of your patients and clients have probably had done by their medical doctors?

Yes, a blood test. And guess what 99% of them tell you when they mention this.

“Oh I’ve already had a blood test done and my doctor looked at it and told me everything was normal.”

One of the things to remember is that the majority of patients who feel “unwell” will come out “normal” on blood test. Clinical experience suggests that these people are by no means “normal” and are a far cry from being functionally optimal.

They may not yet have progressed to a known disease state but they are what we call dys-functional, i.e. their physiological systems are no longer functioning properly and they are starting to feel un-well.

Let’s take a look at some of the typical functional problems patients present to the clinic with because it is common for practitioners of Functional and Integrative Medicine to have patients with signs and symptoms such as

- Fatigue and low energy,
- Digestive disorders such as bloating, heartburn, constipation and gas,
- Allergies
- Reduced immunity
- Infertility
- Pain and inflammation – muscle aches, stiffness, etc.
- Thyroid abnormalities – anything from full blown autoimmune thyroiditis (the most common autoimmune condition on the planet) to the myriad of signs and symptoms associated with a sluggish thyroid
- Sex Hormone issues ranging from erectile dysfunction, low libido, menstrual irregularities to struggles with going through menopause
- Sleep disturbances
- Anxiety or depression
- Weight fluctuations
- Hypertension and the range of issues associated with the cardiovascular system
- Cognitive impairment.

These are some of the typical signs and symptoms of a functional disturbance in the body.

However, many patients with these symptoms present without clinical findings i.e. their blood tests, pathology reports etc., appear within “normal” range.
This is a funny cartoon but it’s not that funny if you are one of the people sitting slumped against the wall in your allopathic medicine physician’s office, which is the experience of millions of people. What we need is to look at these patients through a slightly different lens, a lens that allows us to see what’s going on with them not in terms of disease or pathology but in terms of dysfunction.

It’s important to remember that even if Modern Western medicine knew what was going on, they really have nothing to help the millions of people suffering from these signs and symptoms, unless you count the masking of symptoms with drugs an effective treatment.

But rather than me telling you about it, let’s look at a sample case that clearly demonstrates what I’m talking about.

**CASE STUDY:**

A 39 year old male presents to clinic with complaints of low libido, gaining weight, especially around the abdomen, not sleeping well, catches colds every winter, muscle aches and generally has low energy.

A comprehensive blood test was ordered to try and evaluate what might be going on.

So, here’s a copy of the blood test itself.
This is page 1 of the report that we got back from Quest. Let’s see how much information we can gain about the state of this patient’s health from just looking at the standard lab test and the standard reference ranges. As you can see everything on page 1 looks “normal”!

On this page we can see that total bilirubin is elevated.
And on this page we can see that direct bilirubin is elevated.

On this page everything looks great. All “Normal” here!
On this final page we can see that the DHEA is decreased below normal but everything on this page looks “normal” as well.

Values out of Range:

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Low High</th>
<th>Min Max</th>
<th>Performance Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Bilirubin</td>
<td>1.9 H</td>
<td>0.2-1.2</td>
<td>mg/dL</td>
</tr>
<tr>
<td>Direct Bilirubin</td>
<td>0.3 H</td>
<td>&lt; OR = 0.2 mg/dL</td>
<td></td>
</tr>
<tr>
<td>DHEA Sulfate</td>
<td>66 L</td>
<td>110-370 mcg/dL</td>
<td></td>
</tr>
</tbody>
</table>

The only values that are outside the normal range are:

- Total Bilirubin at 1.9
- Direct Bilirubin at 0.3
- DHEA at 66

Everything else is “normal”.

What does this tell us about this patient’s condition? Not much. In fact here's a typical monologue that a patient experiences when their practitioner, who is not versed in Functional Blood Chemistry Analysis, looks at this blood work:

“Well, Mr. XXXX. Your blood work looks very good. Your cholesterol and triglycerides look normal as does the homocysteine so no cardiovascular issues going on here. Your kidneys look good. BUN and Creatinine are all normal. Your electrolytes look good. Calcium, protein, globulin, they are all within the normal range and the liver enzymes are all normal so nothing wrong with the liver. Your total and direct bilirubin and both elevated. An increase in total and direct bilirubin are associated you’re your gallbladder. Are you experiencing any discomfort under your right rib cage? [They might do a physical exam or, if they’re on top of things, order an ultrasound of the gallbladder or most commonly they “wait and see.”] But your glucose, insulin and hemoglobin A1C all look good as does your thyroid. Your testosterone levels right where they should be for your age. Your DHEA is a bit low for someone your age. [To be honest with you most allopathic physicians wouldn’t be ordering DHEA on their patients so this likely wouldn’t
even come up in conversation because it’s not on their standard panels.] The CBC all looks good. No immune issues and no anemia, and your iron levels are where they should be. And the prostate is good.”

So this patient, who is experiencing real symptoms has just been told that this blood test is pretty much normal with the exception of Bilirubin.

The trouble with this approach, is…

A traditional lab test report lacks meaning

It’s almost as if it has been designed to be deliberately obscure. It is a long list of names, most of which the patient has never heard of, a long list of numbers, an occasional H or L, the reference range and then obscure units.

Nothing about this provides meaning to the patient. The only meaning imparted to the patient is through the mouth of an allopathically trained physician or PA that has about 5 minutes to spend with the patient.

Thousands and thousands of these reports are handed to patents every day. Tons and tons of patient data is amassed and codified in these reports. Though these data can guide and direct our personal health journey, most of the meaning suggested by the data is unfortunately lost.

The issue is certainly not the lack of data (this test had 67 biomarkers on it), but rather the absence of a method powerful enough to tease-out the meaning entrapped within the morass of numbers.

Receiving a lab test result like this with perhaps a few hand written notes on it does not extract the full value, the real meaning, contained within the data.

No wonder the most common response a patient hears from the physician who is going through the lab with them is “Everything looks normal”!

But there’s a big problem with normal

Lab Data are tricky. Its meaning is derived by comparing it to “normal values”. So the first question we should ask ourselves is how are “Normal Values” derived:

The majority of conventional, standard, or “normal” reference ranges are based on the distribution of a bell curve, which says that 95% of the population are “normal” and 2.5% of the population are above the “normal” range and 2.5% are below the “normal” range.
The “normal” range is based on statistics and not on whether a certain value represents good health or function.

When allopathic physicians review a patient’s blood test results, their only concern is when a particular result is outside the “normal” reference range because values outside of the normal range help them identify and diagnose disease states, tissue changes and pathology.

Because they are based on statistics, the “normal” reference values tend to change from year to year depending upon the prevalence of disease in the general population. As our population becomes more dysfunctional and obese and suffers from more cardiovascular disease, the “normal” reference range gets wider and wider. This leaves a larger number of the population testing in a range that is considered “normal”.

Normal ranges also vary from state to state. What might be normal in Virginia may be abnormal in California.

The problem is that “normal” reference ranges usually represent “average” populations, rather than the optimal level required to maintain good health.

“Normal” does not mean optimal.

Clearly most “normal” reference ranges are too broad to adequately detect health problems before they become pathology and are not useful for detecting dysfunction.

So, allopathic physicians evaluate blood chemistry tests using ranges that determine pathology. If pathology is not present, the patient is considered “healthy.” If your numbers are within the “normal” range then everything is normal. Normal is not the same as optimal.

What you really want is “optimal” health as opposed to “normal” health.

The Functional, Physiological “Optimal” Range

The functional approach to chem screen and CBC analysis is oriented around changes in physiology and not pathology.

We use ranges that are based on optimal physiology and not the “normal” population.
This results in a tighter “Functional Physiological Range”, which allows us to evaluate the gray area in the above image that’s within the “Normal” range that to me tells me that something is not quite right in the physiological systems associated with this biomarker.

So we increase our ability to detect patients with changes in physiological “function”.

We can identify the factors that obstruct the patient from achieving optimal physiological, biochemical, and metabolic functioning in their body.

So here’s what’s missing…

- A tool that gathers lab test data and analyzes it for its hidden meaning
- A tool that reveals the subtle, web-like patterns hidden within the numbers
- A tool that gives you a sense of dysfunction within a “functional system” (and I’ll talk about that in a future email)
- A tool that offers concrete, practical suggestions to correct underlying physiological imbalances

Well, a tool like this does exist and it’s called Functional Blood Chemistry Analysis.

One of, if not THE most effective way to gather Functional Information from your patients.

That’s it for today. Our next lesson will dive in to what biomarkers should be on a comprehensive panel.

Until then,

All the best,
Dicken

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