The New Rules for Modern

HEALTHCARE

THE 3 RULES YOU NEED TO KNOW, AND THE 10 QUESTIONS YOU NEED TO ASK

David Z. Tusek, MD

THE ANNUAL PHYSICAL, circa 2016 A.D.

You arrive for your annual physical exam. You are 45 years old and you feel "OK" overall, but lately you've been feeling more tired. Sleep is so-so, overall motivation and sex drive has been on a downward slide, and your overall vitality seems to slowly be fading. You've gained a bit of weight over the last few years, and you have noticed that your memory doesn't seem to be as crisp as it used to be. Your spouse has mentioned that you seem more cranky lately. You report that your diet is "pretty good" because you don't eat too much fast food, but in reality you're really confused by all of the conflicting information out there about nutrition. You know that a few of your relatives passed away from cancer, but you don't really know the details. You have an uncle who had a heart attack at a fairly young age. You've come to the doctor with an open mind, not really sure what to expect from your 45,000 mile tune-up.

Your doctor takes your history and examines your skin for moles, listens to your heart, measures your Body Mass Index and vital signs. Next you have an EKG and basic labs are drawn to check your liver and kidney function, electrolyte, serum protein levels, iron, Vitamin D, cholesterol for heart disease screening, glucose for diabetes screening, thyroid, uric acid, and several inflammatory markers.

OK, what's next?

Is that the best we can do?

For most people, that's the end of it. "Your tests are fine. See you next year".
But you still haven't had any of your questions answered.

- *How do I know if I am actually eating the right stuff for my body?*
- *Is there anything else I can do to improve energy?*
- *Is my decreasing sex drive just because I'm getting older?*
- *Should I be taking any supplements?*
- *Is there anything I can do to lower my cancer risk?*
- *What can I do to avoid ending up like my uncle with an early heart attack?*
- *Did you really check for everything?*
- *Oh, and what about my memory? Anything I can do to improve that?*

Typical response:

"Just eat more vegetables and try to exercise more. Oh, and since your cholesterol is a few points above range, we should probably go ahead and put you on a medication to lower that."

(It doesn't have to be this way. We can do better.)

At 45, with a family history of **heart disease**, you need more than a cholesterol check. In fact, a routine lipid panel doesn't really give you much actionable information at all, as it turns out that half the people who have heart attacks actually have *low* cholesterol. So the true value of this test is extremely limited in many cases. What you need is a Lipoprotein particle analysis and a low-radiation heart scan (EBCT) to determine if any plaque has begun to form in your coronary arteries. From there your risk of heart disease can be assessed far more accurately.

Screening for **diabetes** with fasting glucose is grossly inadequate, and even the HbA1c doesn't provide the full picture. You should also have a fasting insulin test.

Then you should have a **food sensitivity** test to see which "healthy" foods may actually be causing inflammation in your body without you having any idea. Many of us now know that gluten can cause inflammation and "leaky gut" leading to autoimmune disease in a significant percentage of individuals, but gluten is far from the only healthy-sounding food. After all, whole wheat pasta and whole-grain bread *sound* healthy. But lots of foods can cause inflammation and lead to a wide range of symptoms and conditions which can impact our health as individuals. Ideally you should test your "leukocyte degranulation" (a measure of immune activation) in response to all fruit, vegetables, meats, seafood, grains, nuts, and spices in your diet. Such testing is now readily available.

Next, a comprehensive **hormone panel** should be obtained looking at your pituitary hormones, thyroid hormones, sex hormones, and adrenal hormones, as well an IGF test to screen for growth hormone deficiency.

Finally, you need a complete **micronutrient analysis**. While checking the serum levels of one or two vitamins is great, what about the other dozen? They are important too. And so are all of the various crucial minerals which—due to the decreasing nutrient density of our food—are prone to subtle deficiencies within our bodies. Concentrations of important antioxidants (among the most potent antidotes to cancer-causing gene mutations) and anti-inflammatory fatty acids should be tested as well.
Its important to note that while assessing the serum levels of such micronutrients is good, a far better approach is to check the actual levels *inside* our cells. "Serum" is the soup which our blood cells swim in, but the real action of molecular biochemistry occurs within the walls of the cells, and especially inside the nucleus where our DNA is housed and where proteins are synthesized. Testing is now available that not only accurately measures our blood levels of the dozens of important micronutrients—it actually measures the *intra-cellular* (inside the cell) concentrations. Based upon such testing we are armed with the precise information that we need to know exactly what kind of supplements to use in order to replace our body's specific deficiencies.

As all of these test results are gathered, organized, and reviewed, they should be interpreted using the "functional medicine" lens. This means that the vastly broad spectrums of "normal ranges" of each blood test are viewed from the perspective of "optimal" and "ideal". Although the "normal" Vitamin D range is (30 – 100), having a level of 31 is far from optimal, and you are very likely to feel differently at 31 than at 85 or 90. Similarly, while a "normal" thyroid test (TSH) is considered to be (0.45 – 5.5), this range represents an entire order of magnitude (a ten-fold span). Usually, a TSH above 3 represents decreased thyroid function and many patients feel significantly "hypothyroid" (have symptoms of low thyroid function) if they get close to 4,

What kind of a check-up do you deserve?

never mind 5. The optimal range of TSH is (0.45 – 1.5). It turns out that there are optimal ranges for each blood test, but many practitioners ignore this and tell their patients that "all is well" as long as they fall within the reference range.

Abnormal blood levels in one area are commonly affected by suboptimal levels in others. Just because you discover that you have a hormone imbalance, for instance, does not *necessarily* mean you need to begin replacing the low-level hormones. This imbalance may in fact be due to a deficiency in an important mineral.

Following a 45 year old check-up which yields this kind of actionable, practical, usable data, an intelligent health plan can be crafted which actually has a positive impact on your health, how you feel, your quality of life, and prevention of chronic disease.

Most patients would be unlikely to say, "Nah. I'm not really interested in knowing any of this kind of stuff about my health. Just do the basics and give me the cholesterol pill." Most of us are eager to know that such testing is now available. And yet such a small minority of us receive this deeper dive into our overall metabolism and health—fewer still have their test results carefully reviewed and expertly interpreted for them. Before you schedule your next physical, you may want to check ahead to see if you will be getting the right tests. While this detailed work-up can be extremely expensive, there are now ways to obtain this level of testing far more affordably—even without insurance. Over the next few pages, you will discover the right questions to ask.

Did You Know?

There have never been so many useful, more health-transforming tools available to help us become fitter, feel better, and live longer—
than right now.

It's time to turn your **health** into a **masterpiece.**

Your health is a big deal.
After all, what could be more important?

You deserve the absolute best in ideas, design, and innovation—which incorporate the latest scientific advances into your healthcare.

Despite what the TV commercials seem to suggest,

we do not suffer from
GENETIC DEFICIENCIES of
PHARMACEUTICAL DRUGS.

Our current society, and the healthcare system at large, would have you believe that for any ailment and any minor or major symptom, there is a pharmaceutical "cure" awaiting you at your doctor's office. Just stop in and get your prescription and all will be well. It's time we changed our paradigm. Welcome to *Epigenetics.*

we suffer from
GENETIC DISEASES which are
activated by our LIFESTYLES

The New Rules
of MODERN HEALTHCARE

RULE 1. GET THE RIGHT DOCTOR

Getting the most out of your healthcare will require a new kind of relationship with a new kind of doctor.
You will need personal physician who is able to help you create the optimal plan to unlock your health potential—and who will hold you accountable to make progress and stick with it the program (over the long haul). You need a doctor who you can partner with over an extended period of time, and who will be available to you whenever you need.

The Rules of the Doctor-Patient relationship have changed.

Now your doctor is available 24/7 to help you with any of your healthcare needs, regardless what they are, when you need them, or where you might be.

It's called **Direct Primary Care**.

It's convenient and affordable.
It's always-on.
And it's here. **Now**.

We all need a personal physician to guide use through the ever-changing landscape of healthcare. And there is no better way to develop a relationship with a physician than through a Direct Primary Care (DPC) membership.

For a small monthly fee, usually $50-$100 per person per month, you have unlimited access to your personal doctor, whenever you need: face to face, via email, text, or phone, or ever webcam. No copays, 24/7 service, and barrier-free healthcare.

DPC is a primary care movement started by physicians not insurance administrators. It is quickly spreading nationwide. Dr. Tusek co-founded Colorado's original DPC (and one of the first in the US) in 2009. In 2016 we launched the most modern DPC program yet: visit www.cloudmedical.io

DIRECT PRIMARY CARE

In the future, DPC will be the way that we all access primary care.

- 24/7
- no co-pays
- unlimited visits
- virtual connectivity
- no barriers between you and your doctor

The New Rules
of Modern Healthcare

RULE 2. Get The Right Work-up

The most state-of-the-art lab tests will set the foundation from which to launch into the best health of your life. Discovering the underlying metabolic individuality of your body will require more than just a routine "health fair" blood test.
You and your doctor need to understand the details of your hormone balance, your body's unique levels of dozens of various antioxidants, vitamins, minerals, and other micronutrients, your genomics, as well as a variety of risk factors.

Your personal physician should be using the most advanced, high-yield testing methods.

- food sensitivity analysis
- micronutrient deficiency panel
- toxicity panel
- comprehensive hormone panel
- heart scan for plaque score
- cancer risk panel
- pharmacogenomic panel
- etc…

The New Rules
of Modern Healthcare

3. Get The Right Insight

It's critical to gain a deep understanding of how you've been holding yourself back, and how your self-sabotage mechanisms prevent you from the success which you desire—and work so hard to accomplish—only to set yourself up for failure time and time again. (We *all* do this.)

The difference between those who achieve personal success and the the rest of us, is that those who have succeeded have "demystified themselves to themselves".

We must use the right tools to help us discover:

- how our **personalities** influence our health, behavior, & lifestyle
- how our **"shadow"** affects our subconscious decision-making
- how to **access** our **motivational levers** based on how our neurotransmitters function

These are the elements which will ultimately determine our outcomes. Without them, even the best health plan on earth will be unlikely to yield results.

Isn't it time for a fresh point of view in modern medicine?

Science & Medicine are Evolving.

Shouldn't your healthcare
be evolving as well?

How do you know if you are getting
the updated version of healthcare?

Just ask.

The Top 10 Questions to ask yourself (and your physician) about your healthcare:

Question 1: What are the roles of hormones in the health of a typical adult?

Hormones are naturally-produced molecules which tell various cells in our bodies what to do and how to do it. The predominant hormone controlling your metabolism is your Thyroid Hormone, while the hormones responsible for Maturation are called Sex Hormones (Estrogen, Testosterone, etc.). There are many other kinds of hormones–and how well we keep them all in balance plays an enormous role upon how well our bodies and our minds work.

We used to think that hormones only decline in women and that this occurs after 50. This viewpoint is now obsolete since we know that in many cases hormones can become imbalanced in one's 20s and 30s, and men's hormones decline and suffer imbalances as well.

The real questions are: 1.) when and how do we test for hormone imbalances, and 2.) what methods do we employ to restore an optimal balance, and 3.) why are the imbalances occuring in the first place?

The safest, most natural way to address these questions is by using a combination of blood & saliva testing on a regular basis to monitor levels, and prescribing nutraceutical supplements and bio-identical (rather than synthetic) hormones to correct the imbalance.

Question 2: Are there any safe, affordable ways to use stem-cell products for joint pain?

Yes. A technique call "PRP injection" is being successfully used for joint problems caused by various forms of arthritis, tendinitis, and bursitis. By taking your blood sample with a special tube and spinning it in a centrifuge to separate the various components in your blood, your doctor can extract the Platelet-Rich Plasma, which is also rich in your body's own stem cells and healing proteins, and re-inject it into the area of pain, stimulating an enhanced natural healing response.

Free from any controversy of embryonic stem cells, genetic manipulation, or risk of rejection, PRP is becoming a safe and effective option for a variety of musculoskeletal ailments. It has far fewer side-effects than "steroid injections" with cortisone, etc.

(But, is it expensive? In many cases, it can be. However, some physicians includes PRP therapy for their Direct Primary Care members without additional charge.)

Question 3: Are "food sensitivities" a common cause of symptoms?

Yes. Definitely. There is a tremendous amount of confusion amongst patients and doctors alike about the various ways we can have "problems" with different foods.

We all know that over-processed foods like "fast food" aren't very healthy (for any of us). But even free-range chicken and organically grown broccoli can be unhealthy (for some of us) if we happen to be allergic, sensitive, or intolerant to these specific foods.

NOTE: There is absolutely no overlap between food allergies, digestive enzyme deficiencies, and sensitivities. For example, you can have a life-threatening allergy to shrimp but not be sensitive to it. So it's crucial to know precisely what you are testing for.

It is extremely common for patients to be diagnosed with severe diseases such as inflammatory bowel disease and various forms of esophagitis, when the actual cause is a simple food sensitivity. In addition, weight loss can be very challenging if you are not aware of your unique food sensitivities–which vary from person to person.

Question 4: If I do need a prescription drug, are there genetic tests that can show which medications are safe for me take?

Yes. This rapidly evolving are of medicine is called "Pharmacogenomics". The vast majority of pharmaceutical drugs are metabolized in our bodies using a dozen or so "cytochrome" pathways. The various genetic variations in these cytochromes (which are coded in our DNA) determine to a large degree how well a medication is likely to work, what dose will likely be best, and whether we are likely to expect to see side effects.

Everyone should have their pharmacogenomic profile tested, so that even if we don't regularly take prescriptions, we will be armed with this vital information in case of an infection, surgery, medical emergency, etc.

Question 5: Shouldn't we be testing to see if my micronutrient levels are optimized?

Yes. Doctors are often asked to recommend the "best multivitamin supplement". Such a question usually elicit a rather fanciful response because a legitimate answer is impossible unless your micronutrient levels are actually tested . It's best to check to see the specific levels of nutrients not just in your plasma, but *inside* your cells (which is where all the important chemical reactions occur in your body—and where your DNA resides).

It is now possible to test the precise levels of all the various vitamins, minerals, antioxidants and other kinds of "good stuff" inside your cells—as well as checking for the accumulation of any of the "bad stuff" like toxins, chemicals, and heavy metals.

With these kinds of actionable and useful lab results, you will find it far easier and more effective to select the right supplements for you.

Question 6: Do I need an EKG, Vascular Scan, or a Nuclear Stress Test?

As a former emergency physician, whenever I worked-up a patient with acute chest pain in the ER, one of my first calls would be to their family doctor to see if we could get a copy of an old "baseline" EKG. This is an extremely useful thing to have, and I encourage all of my patients to have one in their chart, especially if you are over 40.

Even more useful is a "Heart Scan" (EBCT), which measures the amount of calcified plaque which has accumulated in your coronary arteries throughout your life. Patients with a score of over 300 have a 10x greater risk of a heart attack than those without plaque. If you have a high score, it doesn't mean that a heart attack is imminent, it just means we have to be extra aggressive to lower all 10 of your "cardiac risk factors". We can do that, if need be. Alternatively a CIMT Carotid scan can visualize all forms of plaque, even the soft kind.

While there is a time and place for Nuclear Stress Tests (NST), I'm very concerned about the over-use of this modality. If your doctor recommends a routine NST, just ask to see a chart comparing the radiation doses of various imaging tests including NSTs. (You will find it enlightening.) In addition, the actual predictive value and accuracy of NSTs has recently been called into question.

Question 7: Are there any true "cognitve enhancers" to make my brain work better?

Many patients worry that their memory isn't as good as it used to be, or have problems with focus and concentration, and are looking for assistance with brain function. There are many worthwhile approaches to this issue. First we must assess the quality of your "Five Pillars of Health" (Hydration, Nutrtition, Exercise, Sleep, and Stress Reduction). If your "House of Health" is wobbling on one or two shaky Pillars, your brain is not going to work very well either. Next we need to look at mood (e.g. if a patient is suffering from undiagnosed anxiety, this will undoubtably affect their ability to process and retain information). Understanding your particular neurochemistry is now possible with neurotransmitter testing. There are a variety of natural techniques that can help with mood, and in some cases medication can be a valuable tool. From there we assess the other areas covered in the prior sections (hormones, food sensitivities, micronutrient deficiencies, etc.) as each of them also have great impact upon cognitive performance.

And, Yes. There are, in fact, a variety of natural as well as pharmacological "cognitive enhancers" **(nootropes)** which can be extremely useful if used appropriately. In almost all cases, meaningful improvements in cognitive function can be made.

Question 8: Is it possible to enhance libido in both men and women?

A healthy libido is dependent upon a complex interplay of hormones, genetics, and lifestyle factors. While the "androgens" (hormones associated with masculine drives) including testosterone and several adrenal hormones play a dominant role upon libido, they must be balanced with other hormones for the effect to be optimized.

In many men, an excessive "aromatization effect" may convert a significant percentage of their testosterone into estrogen, while in women an imbalance of estrogen and progesterone can interfere with sex drive. There are also a variety of common micronutrient deficiencies, including zinc, which can negatively impact libido.

In some cases, the cause of low libido is anorgasmia, or difficulty achieving orgasm, which can be treated with a variety of approaches including oxytocin and a topical vaginal compound called "scream cream". Erectile dysfunction (for which there are various therapies) can also lower libido. In addition, a variety of medications can interfere with sexual function, so it's always important to review your medication list.

Question 9: What are the best ways to balance or replace bio-identical hormones?

Bio-Identical hormone replacement therapy (BHRT) requires expertise beyond the approaches to conventional HRT using synthetic hormone products which have been found to powerfully induce breast cancer, heart attacks, strokes, and blood clots. Fortunately an increasing number of physicians are recommending the safer bio-identical approach to hormone replacement. Despite the lower incidence of risk with bio-identical HRT, it is still very important to follow the guidelines for screening (PAP smears, PSA testing, breast imaging, etc.).

BHRT options exist for male as well as female hormones in the form of topically-applied creams, orally-dissolving troches, injectable vials, as well as subcutaneous implants (which last 6 months and gradually dissolve over time). Implants are becoming the most widely-used form of bio-identical HRT for many physicians with extensive expertise in hormone replacement due to superior reliability, efficacy and patient convenience.

Regardless of which modality is used, careful monitoring of levels is crucial for both safety as well as optimal results.

Question 10: So, where can I find Direct Primary Care (DPC)?

An increasing number of primary care physicians are offering DPC programs within their practice, and the new model is quickly proving to be a win-win for patients as well as their physicians.

Patients love the barrier-free access to their personal physician and doctors love the enhanced relationships with their patients and the elimination of bureaucratic headaches which are prevalent in the old insurance-based model of primary care.

Our local DPC program is called Cloud Medical, and we warmly welcome you to come join the Cloud: www.cloudmedical.io

There are a variety of other DPC brands nationwide. See www.dpcare.org for more information.