

Future of Medicine - Part Four



The third principle of the new medicine is that it applies a functional medicine approach to care. The best way to describe functional medicine is to contrast it with conventional medicine, and I'm going to do that in the next few slides. In some way, it won't be a fair comparison because I'll be presenting the best case for functional medicine and in some ways the worst case for conventional medicine. As I said before, conventional medicine has some amazing characteristics. It's remarkable in terms of trauma and emergency medicine and acute care, but again, I think we can all agree it's not very good at treating chronic disease, which is the number-one problem that we face today.

Functional medicine is investigative. It treats symptoms by addressing the root of the problem, which leads to more profound and longer-lasting results, whereas conventional medicine tends to be more superficial, in that it masks or suppresses symptoms but doesn't address the underlying cause, and this tends to create patients for life. For example, if you have high blood pressure, you get on a drug to lower it, and you're basically told to take that for the rest of your life, and the same is true for high cholesterol.

Functional medicine tends to be more holistic. It treats the body as an interconnected whole, and we recognize that in order to treat one part, all other parts must be addressed, whereas conventional medicine is more dualistic. It views the body as a collection of separate parts. In fact, there's a doctor for every different part of the body, and there's often very little communication between these doctors or acknowledgement of a connection.

Functional medicine tends to be safer. Treatments typically have fewer side effects, risks, or complications. We emphasize diet, lifestyle, supplements, and herbs, and unrelated complaints

often will improve spontaneously in treatment. Conventional medicine tends to be more dangerous. Drugs and surgery can have serious side effects and complications, including death, and this is evidenced by the fact that medical care, as we discussed earlier, is either the third leading cause of death or the first leading cause of death.

Functional medicine is patient centered. This means we treat the patient and not the disease. We recognize the individuality of the patient, and we know that there's no one-size-fits-all approach. In fact, patients with the same condition, like ulcerative colitis, for example, may get a completely different treatment based on the particular etiology or pathogenesis of their condition. Conventional medicine, on the other hand, tends to be more disease centered. It treats the disease and not the patient, and patients with the same disease will often get the same treatment despite differences in their presentation.

In functional medicine, the patient is respected, empowered, educated, and encouraged to play an active role in their healing process, whereas in conventional medicine, the patient's opinion is often discounted or ignored, little time is spent on education, and the patient is even sometimes actively discouraged to play a strong role in their healing process.

Functional medicine is integrative. It combines the best of allopathic and alternative treatments. It doesn't exclude drugs or surgery when they're necessary but does tend to focus more on diet, lifestyle, supplements, and herbs as the primary interventions, whereas conventional medicine is more limited in its scope. It typically relies almost exclusively on drugs and surgery despite risks, and while it does pay some lip service to the importance of nutrition and lifestyle, physicians are undereducated on these topics and often don't have much time to devote to them in the typical patient interaction.

Functional medicine is preventative. It's guided by the ancient Chinese proverb, "The superb physician treats disease before it occurs," whereas conventional medicine tends to be a little more reactive. It really aims to manage disease after it occurs and often doesn't intervene until disease has progressed beyond a certain point of no return.



The ADAPT Framework embraces these three principles and incorporates them into a systems model of functional medicine that I've developed.

This model informs the way that I think about patient care and I would invite you to think about it. At the core of this model is the relationship between the exposome and the genome and epigenome, which we've been discussing here in this presentation. It's the interaction between our genes and the exposome and how that interaction affects epigenetic expression, or the expression of our genes, that largely determines our health and underlies most human disease.

The next ring out here is pathology. When the modern diet and lifestyle and environment affect expression of genes, that leads to pathology, which can be defined as deviation from normal physiology that characterizes or constitutes disease. In short, they're mechanisms that give rise to disease. Examples might include small intestine bacterial overgrowth, low stomach acid, or gut infections as pathologies that underlie the disease or syndrome that we call irritable bowel syndrome or inflammatory bowel disease or gastroesophageal reflux disease. Then things like insulin resistance, leptin resistance, and inflammation are the pathologies that give rise to diseases like type 2 diabetes or syndromes like metabolic syndrome, and impaired methylation and mitochondrial dysfunction might be the mechanisms or pathologies that underlie the syndromes or diseases that we call depression, ADHD, or anxiety.

From pathologies, we move to diseases and syndromes, which I haven't listed here, but a disease is a disorder of a structure or function that produces specific signs and symptoms. A syndrome is not as well defined as a disease, but it is a collection of signs and symptoms that is recognized as a particular entity but may not be as specific in terms of the etiology or pathogenesis. I've already mentioned a couple of examples of syndromes like IBS, irritable bowel syndrome. Fibromyalgia syndrome would be another one, and premenstrual syndrome would be another one. We know

they exist, they affect people, and they can be even quite serious in their effect, but they're labeled as syndromes because we don't fully understand their etiology and pathology or, in fact—and this is what I certainly believe and what I think the research supports—they may have multiple etiologies and pathologies, so they're actually a collection of several different diseases or pathologies that we have grouped together under one syndrome umbrella. Of course, examples of diseases would be type 2 diabetes, cardiovascular disease, Alzheimer's disease, Parkinson's disease, cancer, etc.

Finally, the outer ring of this systems model is symptoms, and these are the outward manifestations of dysfunctional diet, lifestyle, or environment interaction with genes and the epigenome that lead to pathologies and disease. Of course, the symptoms are the way that we actually experience everything that comes before them in the systems model.

In conventional medicine, they typically approach treatment from the outside in, so again, the focus is on suppressing symptoms, which is that outer ring, with drugs or surgery and managing disease, which is the second ring in, trying to slow the progression and help the patient to live with the symptoms. There's nothing wrong with that, per se, with helping the patient to live with the symptoms and slowing the progression, and acute-stage care when these diseases get severe is necessary, but of course, in functional medicine we are looking for something different. We're looking to prevent disease before it occurs, and to do that, we need a different approach where we work from the inside out in this systems model. We start with the interaction between the exposome and genome and epigenome, and we focus on diet, lifestyle, and environmental influences, and then the next step is to correct the pathologies that underlie disease and symptomatology. That's really a fundamentally different model and the core difference between functional and conventional medicine.

OK, that's it for this section. I hope you got a lot out of it. I know it's kind of a big paradigm shift if you've been firmly rooted in the world of conventional medicine, but I think the more that you spend time with it and consider it and start embracing it in your own practice, the more powerful and potentially revolutionary you'll find that it is. All right, I'll look forward to talking to you in the next section.