

Our Biggest Challenges to Compete in Wellness Care

SYSTEMIC INFLAMMATION AND FREE-RADICAL DAMAGE.

Donald Hayes, DC

In the [first article](#) in this four-article series [May 1 DC], I made the case that chiropractors should either embrace offering lifestyle wellness in their practices or face the possibility of losing their place in the wellness care marketplace. Two of the biggest threats to our patients' state of wellness are free-radical damage and chronic, systemic inflammation. If we are to be viewed as participants in the field of lifestyle wellness, we need to know about these two threats, how they affect every patient we see and how to best treat patients with these conditions.

21st Century Challenges to Health and Wellness

What exactly do our patients need to do to obtain and maintain wellness and health in this 21st century world? When you bring together all the health challenges they are faced with, including living in both a toxic external world and typically having a toxic internal world, the day-to-day stressors of commuting in traffic, working long hours, family responsibilities, more bills than money, and a nutrient-depleted, fast-food lifestyle, they are living in the middle of a perfect storm that directly impacts their body's ability to heal and repair the very injury they came to you to "fix."

Unlike the health challenges doctors faced in the past (mostly due to infectious diseases), our current health epidemics are the chronic diseases of aging, diabetes, heart disease and obesity – epidemics fueled by the one-two punch of free-radical damage to cells and chronic, systemic inflammation.

Leading medical pathology textbooks now accept the fact that chronic, systemic inflammation and free-radical damage are two of the greatest threats to health. In fact, in *The Pathologic Basis of Disease* by Robbins and Cotran, the authors spend the first three chapters discussing the role inflammation plays in nearly every disease described in the remaining 26 chapters. Doctors of the future need to realize just how pervasive and important inflammation really is.

Inflammation – The First Great Threat to Wellness

Inflammation is a natural part of the body's defense system, particularly against acute injury and infection. However, there are times when the appropriate immune response to "shut down" is disrupted and the patient's immune system doesn't get the word. In fact, it does just the opposite, forcing the patient to suddenly, without notice, transform into a state of chronic inflammation.

This new state can easily be evidenced by any doctor who is on the lookout for the typical host of inflammatory changes that take place; and can be confirmed by performing a few non-invasive chronic inflammation marker tests. These non-invasive measurements can be readily used in clinical practice to get an impression of a patient's potential for chronic inflammation and pain.

The problem is, most health care providers fail to notice the changes and thus fail to identify the presence of chronic, systemic inflammation in their patients. If the patient comes to a doctor with acute and underlying chronic, systemic inflammation and the provider does not check for *both* types, chronic inflammation is frequently overlooked and not treated.

Chronic inflammation is a totally different type of condition that requires a totally different treatment protocol. The emerging interpretation is that chronic inflammation leads to pain chronicity because the associated non-resolving systemic inflammation promotes pain in injured musculoskeletal tissues and prevents healing and pain resolution. When the immune system shifts into a chronic state of inflammation, this begins the process considered by established research throughout the world as the major factor in the initiation of most of the recognized chronic health diseases.

Free Radicals - The Second Great Threat to Wellness

Free radicals are the other great threat, causing a condition known as oxidation or oxidative stress. *Oxidative stress* is defined as having more free radicals than antioxidants to neutralize them, contributing to inflammation and tissue damage.

Dr. Denham Harman first proposed the free-radical theory of aging in 1954, but it was ignored until the late 1960s, when several scientific studies proved him right. Since then, more than 80 degenerative diseases have been linked to oxidative stress. Scientists now believe these degenerative diseases are not really separate things after all, but rather different ways the body is expressing the results of a lifestyle and environment.

Free radicals only last for a tiny fraction of a second, but they cause serious structural damage. Once a molecule is oxidized by a free radical, it often starts a chain reaction of oxidation until an antioxidant can stop it. Without antioxidants, free radicals would cause so much damage that the cell's repair systems couldn't keep up.

Not all antioxidants are created equal. Each one "lives" in a different part of the cell, so a patient needs lots of different ones to get full protection. Antioxidants also need other antioxidants to work properly, so a patient doesn't get the full benefit if they only have a few.

A good case can be made that health depends on a balance between free radicals, oxidative stress and the body's antioxidant reserves. Aging and chronic diseases reflect the inability of our antioxidant reserves to cope with oxidative stress over time.

Oxidative stress and chronic, systemic inflammation are intimately connected, each fueling the other. A vicious cycle is created: Inflammation causes free-radical damage and free-radical damage leads to inflammation. The good news is there is a way to build strong antioxidant reserves, quench free radicals and reduce inflammation. A long life without disease *is* possible.

The Key to Preserving Wellness and Health

The key to recovering from acute and chronic conditions, and preserving our patients' health and state of wellness, requires both the reduction of inflammation and the prevention of excessive free-radical damage. In other words, we need to consider a two-pronged solution for the two most pressing health needs: comprehensive anti-inflammatory support and comprehensive antioxidant protection for the entire body.

Antioxidants are the body's defenders against free-radical damage. In the past, patients could generate adequate antioxidants from a healthy diet of fruits and vegetables. However, it is estimated that only 10 percent of the U.S. population consumes even five servings of fruits and vegetables per day. Their nutrient-deficient diets, coupled with ongoing, lifestyle-induced stressors, put patients in desperate need of more antioxidant protection.

The real key is the number of different types of antioxidant; having a variety of phytonutrients so the synergy created is much more beneficial than the sum of the parts in counteracting the problems associated with free radicals and inflammation. The most important treatment recommendation is focusing on the dual solution of offering anti-inflammatory support and antioxidant protection to help comprehensively improve our patients' natural defenses and make staying well easier.

Up Next: Back Pain and the Metabolic Syndrome

In part 3 of this series (June 1 *DC*), I will discuss the connection between musculoskeletal pain – the most common complaint we see – and the chronic, systemic inflammatory state referred to as the metabolic syndrome. If we don't test for both acute and chronic systemic inflammation, determine if metabolic syndrome is present and manage both types of inflammation if called for, we could put ourselves in jeopardy of losing much of the musculoskeletal back and neck pain market to MDs practicing lifestyle medicine.

MAY 2015