Novel Methods to Cure Drug Addiction

By Mark Joslin

There is a drug-induced death in this country every 15 minutes,[1] a trend that has risen steadily over the past decade. Despite a trillion dollars[2] having been spent on this nation's "drug wars" over the past six decades, more addictive and lethal compounds are used by Americans than ever before.[3]

Why are we losing the war against drug addiction?

One pioneering physician has a simple answer.

Life Extension® recently had the opportunity to speak at length with Dr. Marvin "Rick" Sponaugle. Board certified in both anesthesiology and addiction medicine, Sponaugle rejects addiction treatment that is based solely on counseling, the preferred methodology among almost all drug treatment facilities in the United States **(97%).**[4]

Instead, he combines state-of-the-art technology with safe, low-cost, natural interventions, including **hormones, supplements,** and **restoration of gut ecology.** The efficacy of his approach speaks for itself. While national relapse rates range as high as **90%** by some estimates,[5,6] Dr. Sponaugle has treated over 5,000 substance abusers—with a relapse rate of only **9%!**[7]

According to Dr. Sponaugle, most detox and rehab programs are ineffective because they do not address the root problem. "Patients continue to relapse until their brain function is optimized. Otherwise, patients will continue to use drugs to stimulate underactive brain regions and to calm overactive brain regions. We have learned that successful addiction treatment requires diagnosis and treatment of multiple underlying biochemical and medical disorders."

Official statistics support Sponaugle's contention. The National Institutes of Health report that long-term drug abuse induces adverse chemical alterations in the brain that remain long after someone has stopped using drugs.[6] This simple fact supports a multitargeted *neurochemical* intervention over behavioral approaches like counseling.

What Is Addiction? Dr. Sponaugle's Viewpoint

Conventional medicine and most of society have long viewed addictions as pathological behavior over which the sufferer is expected to have a great deal of control. That, says Dr. Sponaugle, has led to conventional treatments that basically try to talk the patient out of a biochemical craving.

Sponaugle, who trained as an anesthesiologist, intensive care specialist, and pain management specialist, was horrified early in his career to see physicians allowing their addicted patients to undergo painful and dangerous withdrawal symptoms. This type of "cold turkey" withdrawal can be lethal to someone whose entire physiological system is out of balance due to substance abuse. In one instance, a nurse who had a heart transplant and was addicted to 3,200 mg/day of OxyContin® was placed in Dr. Sponaugle's care by her university heart surgeons because they knew that traditional detox could harm her transplanted heart.

Sponaugle recognized that addictive behavior is the product of two major inputs to brain chemistry. First, a person's inherited characteristics determine the ebb and flow of certain neurotransmitters in the brain. Second, acquired changes further amplify imbalances in those vital brain chemicals.

Sponaugle uses high-tech SPECT (single-photon emission computed tomography) scans of the brain to demonstrate

changes in brain blood flow and neurotransmitter activity in patients with various kinds of addictions. Remarkably, there are characteristic patterns on those images that correlate with different addictive substances, and even with behaviors such as video game addictions.[13-15]

Most experts have used those SPECT scans to study the impact of the drug or the behavior on brain function. Sponaugle's key insight, however, was to recognize that *certain patterns of brain activity* themselves *make addiction more likely.*

Sponaugle says some of these brain activity patterns reflect ***inherited*** patterns of brain chemistry. People who display these patterns, he says, simply learn that they can feel "more normal" when they use a particular chemical substance.

But that's only half of the story, says Sponaugle. He feels it is also important to diagnose and treat ***acquired*** alterations in brain chemistry that further promote substance use. Such changes include those wrought by chronic exposure to pharmacologic drugs and other environmental toxins, and especially those produced by changes in normal gut bacteria.

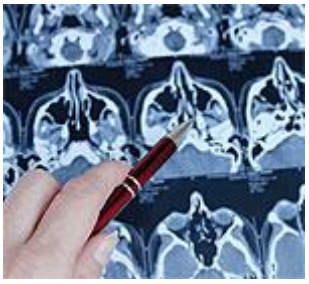
Unless we address both inherited and acquired patterns of brain chemistry, Sponaugle argues, we will routinely fail to treat the underlying factors that sustain addictive behavior. The result? Addicts will continue to use chemical substances to "medicate" themselves to achieve a sense of normality, resulting in the kinds of high relapse rates we see in conventional addiction treatments.

ADDICTION STATISTICS: USA	
Percent of persons 12 years of age and over with any illicit drug use in the past month[8]	8%
Number of persons 12 years of age and over with any nonmedical use of a psychotherapeutic drug in the past month[9]	6.2 million
Percentage of young adults (ages 18-25) who reported driving under the influence of alcohol at least once in the year 2000.[10]	19.9%
Emergency Department (ED) visits for drug misuse or abuse[11]	2.1 million
ED visits for pharmaceutical misuse or abuse by adults aged 50 or older in 2008[11]	256,097 (a 121% increase from 2004)
ED visits for illicit drug use by adults aged 50 or older in 2008[12]	118,495 • Cocaine 63% • Heroin 27% • Marijuana 19% • Illicit stimulants 5%
Number of Americans needing treatment for substance abuse and addiction in 2004[5]	22.5 million
Number who received treatment[5]	3.8 million
Percent of illegal drug users who are employed[5]	71%
Days of work lost to alcoholism annually[5]	500 million

Inherited Abnormalities in Brain Chemistry

According to Sponaugle, the overwhelming majority of his 5,000 successfully treated patients have areas of their brains that are either overactive or underactive.[7] And that abnormal activity level helps determine the kind of drug, substance,

or behavior a person may turn to in order to "normalize" their feelings.



The ***underactive*** areas most commonly involve the prefrontal cortex (brain region behind the forehead) and the pleasure or reward system of the brain. People with diminished activity in the nucleus accumbens (reward center) display what scientists call "reward deficiency syndrome," or RDS.[16] People with RDS have a hard time feeling "normal" responses to positive events, leaving them essentially hungering for happiness. Neurons in those low-activity areas are primarily driven by the neurotransmitter dopamine; addicts tend to display marked deficiencies in dopamine activity in both areas.[17-19]

As a result, says Sponaugle, people with RDS often seek to rebalance their brains with stimulating substances or behaviors that produce a dopamine surge in their pleasure center.[7] For example, these patients might become addicted to cocaine, opiate drugs such as morphine or heroin, or stimulants such as amphetamines.

Dr. Sponaugle has demonstrated these effects graphically in a series of SPECT scans on his patients with addictions to cocaine and OxyContin®: all of them showed marked reduction in activity of neurons that rely on dopamine. Sponaugle refers to these areas as "dopamine holes," and he uses them as a diagnostic feature as he seeks to rebalance his patients' brain chemistry.

People with overactive brain regions have an entirely different set of problems and are likely to become addicted to "calming" substances, according to Sponaugle.[7] Neurotransmitters involved in these areas are excitatory chemicals such as dopamine, histamine, glutamate, epinephrine (adrenalin) and norepinephrine.[20] Their effect is to increase electrical activity of brain cells. At low levels of excess activity, patients may experience mild anxiety or insomnia. At higher levels, they may experience panic attacks or even live in a more or less continuous panic mode.[7]

This increased activity also shows up on SPECT scans, most notably in patients with high levels of anxiety or with panic disorders.[21-23] Histamine is especially active in such patients' brains.[24-26] Dr. Sponaugle has a large file of SPECT scans showing overactive brain regions derived from elevated histamine activity in his patients addicted to "calming" substances such as alcohol, benzodiazepine anti-anxiety medications (e.g., Valium® or Xanax®), and again, opiates.

WHAT YOU NEED TO KNOW: DR. SPONAUGLE'S APPROACH TO CURING ADDICTION

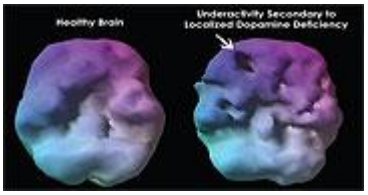
- Conventional addiction treatment using psychotherapy, medications, shock therapy, and painful detox programs often yield disappointing results.
- Up to 90% of those who attempt to overcome an addiction relapse.
- This may be because long-term drug use creates long-lasting changes in brain chemistry.
- Dr. Marvin "Rick" Sponaugle has developed an effective, integrative addiction recovery program that addresses the brain imbalances at the root of addictions.
- Addressing inherited and acquired patterns of brain chemistry is crucial to achieve lasting addiction recovery.
- Inherited addiction tendencies can involve areas of the brain that are overactive or underactive.
- Acquired hormone and gut imbalances can disrupt brain chemistry, setting the stage for addiction.
- Dr. Sponaugle restores optimal nutrient levels, hormones, enzymes, brain chemicals, and gastrointestinal health to help people overcome addiction—with a remarkable relapse rate of only 9%.

Acquired Abnormalities in Brain Chemistry

According to Dr. Sponaugle, people are "set up" for addictions by their inherited brain chemistry patterns. But that alone is not always enough to trigger an addiction. A "second hit" is usually required, typically in the form of imbalances in two important biological areas, the intestine and the endocrine (hormonal) system.

Gut Imbalance

The human gut is frequently referred to as the "second brain," because of its normally high production of serotonin and other neurotransmitters.[27] Sponaugle says his clinical research suggests that "Addiction is more frequently caused by toxins from the gut than from any other single causation."[7]



Healthy Brain

Alterations in the patterns of intestinal bacteria, coupled with ingestion of toxins from the environment, can produce what is known as intestinal hyperpermeability or "leaky gut," a damaged intestinal lining that allows substances that normally would be eliminated in the stool to be absorbed into the bloodstream, with consequences in the brain.[28,29] Bacterial overgrowth in the gut may also interfere with serotonin.[30] According to Dr. Sponaugle, food allergies cause elevated histamine levels that lead to increased electrical activity throughout the brain. Histamine's chemical structure is closely related to dopamine, and Dr. Sponaugle believes that histamine stimulates dopamine activity in the brain.

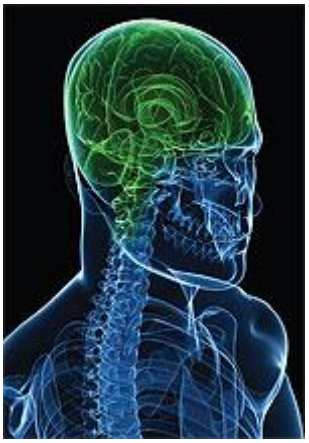
Dr. Sponaugle says that in his clinical experience, "alcoholism is linked with overgrowth of candida in the gastrointestinal tract." He has observed that this GI disturbance is linked with deficiencies of two calming brain chemicals: serotonin and taurine. The combination of serotonin deficiency, taurine deficiency, and excessive histamine activation keeps the alcoholic in a state that feels like a constant alcohol-withdrawal pattern, says Sponaugle. "The need to drink becomes more intense, causing increased anxiety and insomnia."

Hormonal Imbalance

Dr. Sponaugle says that his clinic has found hormonal imbalances to be one of the most common causes of addiction in middle-aged women. This is hardly surprising, since hormones such as estrogen, progesterone, and pregnenolone are known to have powerful effects on brain function, yet traditional centers fail to evaluate female hormones. These "neurosteroids" are potent modulators of the neurotransmitters dopamine, serotonin, and gamma-aminobutyric acid (GABA), so when a woman's hormones are out of balance, so is the electrical activity in her brain.[31-33]

Estradiol, for example, increases serotonin receptor activity in the brain.[34] That contributes to a sense of well-being that can be rapidly lost in the premenstrual period and at the onset of menopause, when estrogen levels plummet. These are also the times in a woman's life when she is most likely to suffer from depression, anxiety, and insomnia—all of which can be "self-medicated" with chemical substances that transiently "quiet" overactive brain regions: alcohol, Xanax®, and even opiate pain medication.

Dr. Sponaugle's Approach to Diagnosis and Treatment



Dr. Sponaugle's unique approach focuses on determining abnormal brain chemistry patterns and then rectifying them. In order to correctly assess biochemical and medical disorders that can distort brain chemistry and cause various addiction and anxiety issues, Sponaugle conducts a comprehensive analysis of more than 65 brain chemicals, hormones, enzymes, toxins, amino acids, infectious biomarkers, and vitamins through blood and urine testing.

This extensive evaluation allows Sponaugle to determine the root causes of each individual's addictive behaviors. In many cases, the possibilities of exposure to mold and industrial toxins are also evaluated.

Dr. Sponaugle is critical of conventional addiction treatment programs, noting that most focus only on one or two aspects of drug addiction.

Instead, Sponaugle uses a combination of treatments he refers to as nutritional and rapid detox. Sponaugle's nutritional detox provides intravenous amino acids, vitamins, and minerals to remedy biochemical

imbalances safely.

Dr. Sponaugle drew on his extensive anesthesia and intensive care training to develop his rapid detox protocol. In this phase, he administers intravenous (IV) sedation and other medications that help blunt or block symptoms of physical withdrawal. These symptoms are typically related to elevated levels of "fight or flight" hormones like adrenaline that produce anxiety, agitation, palpitations, and jitteriness. Those unpleasant feelings, left uncorrected, make the detox experience so uncomfortable that many addicts prefer the addiction itself.

Dr. Sponaugle customizes his protocol to each patient, which helps him avoid any of the effects of the withdrawal-related adrenaline surge. His continued assessment and balancing of hormone and neurotransmitter levels over the longer term enables his patients' recovery process to be more effective.

A Look at Dr. Sponaugle's Casebook

Two cases from Dr. Sponaugle's clinical experience serve to illustrate his approach.

Jennifer

Jennifer was a 54-year-old nurse who began drinking large amounts of wine at age 50 (she had previously been a light social drinker only). On arrival at Dr. Sponaugle's clinic, she had just returned from a 28-day, $46,000 stay at a treatment center in Arizona, relapsing just four days after returning home.

Jennifer's brain scan revealed both areas of low dopamine activity (dopamine holes in her prefrontal cortex) and an overactive deep limbic region linked with serotonin and taurine deficiency. Her brain scan revealed generalized overactivity, likely due to elevated histamine from her leaky gut syndrome. Her urinary neurotransmitter testing revealed low serotonin and taurine levels, and a markedly elevated histamine level, vividly demonstrating brain chemical imbalances associated with excessive wine consumption.

Complicating her alcohol-related serotonin deficiency was Jennifer's menopausal low estradiol levels, making her brain resistant to what serotonin she did produce. The Arizona treatment center had started her on serotonin-boosting SSRI (selective serotonin reuptake inhibitor) medication [Lexapro®], but it had no effect on her menopausal serotonin-resistant receptors.

The net result, says Dr. Sponaugle, was an overactive limbic system creating a steady beat of depression and anxiety. It is hardly surprising that without further treatment, Jennifer quickly resorted to self-medication with her drug of choice: alcohol.

Jennifer was started on high-quality supplements including 5-hydroxytryptophan (5-HTP), allowing her brain to begin making more serotonin. She was also given appropriate estradiol replacement to restore her serotonin receptors to their normal sensitivity. She used a gut-detoxifying formula, probiotics, and a combination of L-glutamine, gamma-oryzanol, and soothing herbs to help heal her intestine.

Jennifer has been alcohol-free for more than 15 months and experiences absolutely no craving for alcohol. Jennifer describes her own progress as "amazing."

Editor's note: Individuals taking selective serotonin reuptake inhibitor drugs such as Lexapro® should not take 5-HTP.

Susan

Susan was a 21-year-old woman who came to Dr. Sponaugle's clinic with her mother. Susan had been drinking two liters of vodka while consuming 1,000 mg of OxyContin® (a narcotic) and 20 mg of Xanax® (an anti-anxiety drug) daily.

Susan's problems had begun at age 12, since which time she had attended eight drug rehab programs at a cost of $240,000.

Susan had begun by raiding her parents' liquor cabinet to "calm her anxious brain." Dr. Sponaugle learned that Susan had not experienced anxiety issues prior to age 12, which was also, significantly, the age when she began having her periods, which were always longer and heavier than those of her peers.

Sponaugle recognized in Susan the classic presentation of progesterone deficiency. Her ovaries were producing normal levels of estrogen unopposed by progesterone, a situation known to result in enhanced anxiety.[35,36] Her relatively high estrogen levels also boosted dopamine production, further adding to overactivity in Susan's anxiety-producing brain regions.[37]

Like Jennifer, then, Susan began by drinking the most readily-available calming drug she could find: alcohol. Her alcohol consumption contributed to the kind of toxic yeast overgrowth in the gastrointestinal tract that Dr. Sponaugle has found is associated with deficiencies of serotonin and taurine (two calming brain chemicals) in alcoholic patients. Her ensuing leaky gut contributed to elevated brain histamine activity.

Quite naturally, then, Susan turned to stronger drugs that could calm the mounting anxiety levels triggered by excess histamine activity. She discovered the soothing nature of narcotics and the calming influence of the benzodiazepines (such as Xanax®).

Sponaugle began by optimizing Susan's hormonal levels (the original problem) and balancing her brain chemistry. He aggressively detoxified her gut with natural supplements designed to kill the yeast *Candida albicans* and other unwanted organisms. And he restored levels of nutrients and minerals that had been deficient.

Susan is now more than three years post-treatment without a single relapse. Says Sponaugle, "She is well on her way to enjoying a wonderful future."

Summary

While millions of Americans suffer from chemical addictions, conventional detox and treatment programs have dismal success, with relapse rates ranging from 50-90%. Few such programs take into account the complicated inherited and acquired abnormalities in brain chemistry associated with addictions, focusing instead on frustrating "talk therapy" or medical detoxification strategies. Marvin "Rick" Sponaugle, MD, is a board certified anesthesiologist and addiction specialist who incorporates state-of-the art brain science and comprehensive biochemical testing to understand each addict's unique pattern of brain chemistry. He uses this information to determine precisely how and why each person is self-medicating with their drug(s) of choice to achieve what for them is often the only semblance of "normalcy" they can experience. Armed with this information and an understanding of integrative health, Sponaugle first detoxifies his patients while administering deficient amino acid brain chemical precursors, vitamins, and minerals, along with medications to neutralize their uncomfortable adrenaline surges. He then administers a comprehensive program of biochemical and hormonal balancing to remove the driving forces behind the addiction. Sponaugle's results speak for themselves: his patients' relapse rate is just 9%. Patients and family members can find more information at: http://floridadetox.com.

For more information visit www.floridadetox.com or call 1-888-775-2770.

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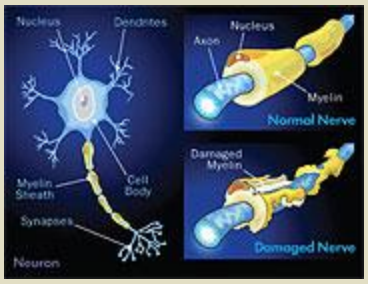
NEUROLOGICAL CONDITIONS



Structures of healthy nerve and nerve damaged by MS.

Dr. Sponaugle reports exceptionally successful results with his biochemically-based addiction treatment programs. He has now applied the same principles of detoxification and chemical balancing to other apparently intractable conditions. Among these, the most intriguing are his management of neurological illnesses such as multiple sclerosis (MS), amyotrophic lateral sclerosis (ALS, also called Lou Gehrig's Disease), attention deficit/hyperactivity disorder (ADHD), and even Alzheimer's disease (AD).

Says Sponaugle, "US physicians lag far behind their European counterparts in recognizing the role played by biotoxins, especially those from indoor molds and solvent toxins such as benzene and toluene, in the causation of MS, AD, and other neurological conditions." Sponaugle notes that basic science studies have long demonstrated a relationship between mold toxins and MS.[38] In MS, brain cells lose their vital insulating sheath of the fat-and-protein material called myelin, leading to the debilitating symptoms of the disease. It is now well documented that fungi, including molds, release toxins that activate immune system cells and trigger them to destroy brain cells.[38,39] Nonetheless, says Sponaugle, American physicians continue to tell their patients that the cause of MS is unknown.

There is increasing evidence that fungal toxins play a causative role in other neurological conditions as well, including Alzheimer's disease. In this condition, fungal toxins have been identified in actual brain or nerve tissue from sufferers of the disorders.[40] Tissue from these patients and those with other neurological disorders also contains high levels of an enzyme that targets the fungal protein called chitin, which is not otherwise found in the human body.[41]

Molds and their toxins are distressingly prevalent in our food supply. One study demonstrated that nearly 20% of corn samples from the midwest contained one of the four most dangerous fungal toxins.[42] Sponaugle says that one in four Americans, 24%, have a particular genetic factor that interferes with the effective removal of mold and industrial toxins. He sees this genetic factor in 80% of his non-addicted "wellness" patients who suffer common maladies such as chronic fatigue syndrome, fibromyalgia, and even poorly-defined malaise, in addition to neurological conditions such as depression, anxiety, rage, and bipolar symptoms.

Dr. Sponaugle has turned his observations into solid clinical practice. He has designed an aggressive intravenous treatment model for toxin removal that is highly successful at diminishing symptoms of his patients suffering from MS as well as other debilitating brain disorders such as ALS, Parkinson's disease, Alzheimer's disease, and autism.

Non-Addictive Conditions Also Respond to Sponaugle's Treatment Approach

Among the many targeted programs Dr. Sponaugle offers, several are aimed at treating non-addictive conditions. These conditions share certain characteristics with the addictive disorders, such as producing imbalances in brain chemistry, and often have a toxin exposure as a cause. Sponaugle has successfully treated patients with:

- Hypoglycemia
- Food allergies
- Nutrient depletion
- Anxiety/insomnia
- ADD/ADHD (including many high-performing adult professionals)
- Depression
- Multiple sclerosis
- Alzheimer's disease
- Hormonal imbalance

Sponaugle's Brain and Body Wellness Program targets those with suspected toxins (especially indoor mold and industrial solvent toxicity) that may be at the root of their disorders. His comprehensive testing and proprietary

intravenous treatment model have been highly successful in managing these conditions.

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