Healing the Addicted Brain

Addiction is a Chronic, Multifactorial – and Lifelong – Medical Disease of the Brain

By Harold C. Urschel III, MD, MMA

Last issue, Dr. Harold Urschel addressed the issues of Treatments for Alcohol Dependence, opiates and stimulants. Dr. Urschel also outlined the costs of medical problems caused by addiction, along with lost earnings, accidents and crime. These issues were estimated to have cost Americans more than $500 billion, with state and federal governments spending more than $15 billion per year, and insurers another $5 billion more annually, on substance abuse treatment services for about four million people.

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Introduction

Researchers estimate that some 20 million Americans who could benefit from treatment are not getting it. Additionally, for those patients who are receiving treatment, the majority of our industry still treats alcohol and drug addiction with only behavioral and psychosocial approaches.

While traditional, 12-step based programs have certainly helped countless people achieve sobriety, the long term sobriety failure rate is estimated at 70 percent, a figure most would consider unacceptable, as alcoholism is the third leading cause of death in the United States. Also, the majority of patients do not have the funds or the time to commit to residential treatment or intensive outpatient counseling. The bottom line is that until we stop treating alcohol and drug addiction insufficiently in the U.S., we will continue to see countless people die unnecessarily, as many of them will give up hope if they can't get well.

Fortunately, we now have scientific evidence that concludes addiction is a chronic, progressive disease of the brain with many similarities to other chronic medical diseases such as diabetes, hypertension and asthma and needs to be treated with a combination of behavioral therapy and a medical approach. The American Medical Association (AMA), National Institute on Drug Abuse (NIDA), National Institutes of Health (NIH), World Health Organization (WHO), American Psychiatric Association (APA), as well as many other organizations in the scientific and medical fields, now recognize alcohol/drug addiction as a chronic and progressive physical disease that attacks the brain, damaging key parts of the limbic system and cerebral cortex causing lasting changes in the brain. These changes don't go away, sometimes for months or years, even after recovering patients stop using. Although an individual's initial choice to drink alcohol or use another substance is a voluntary one, over time the substance physically changes the brain to where the individual truly cannot stop his or her addictive behavior, even though the desire to do so might be high.

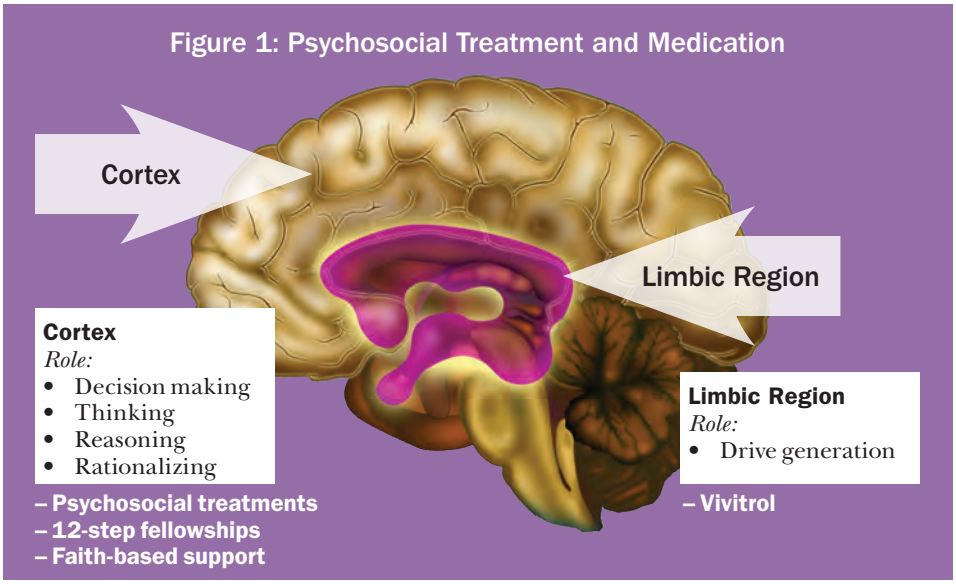
In chronic, multi-factorial conditions such as cardiovascular disease, the standard of care involves front-line physiological interventions through surgery or medication, followed by environmental and behavioral modifications. Hypertension and high cholesterol are often controlled by medication, but modifying dietary habits and exercise are necessary steps as well. Addiction treatment is no different, and with the proper treatment it too can be managed and more importantly, give substance use disorders patients realistic hope that they can be healed and live a clean or sober life.

Psychopharmalogical Component of Addiction Treatment

Since addiction is a chronic, multifactorial — and lifelong — medical disease of the brain, no one medical treatment alone can serve as a "cure." However, used in combination with behavioral treatments and other psychosocial interventions, pharmacologic treatments have shown effectiveness in countering the effects of alcohol/drugs on the brain and behavior, relieving withdrawal symptoms, and helping overcome cravings. For some patients, this is a "jump start" for their recovery — relief from cravings allows them to concentrate on the behavioral and psychosocial aspects of recovery, often progressing sooner or faster in those activities.

Additionally, the use of pharmacological treatments that also seem to accelerate recovery of the brain systems controlling memory and concentration can allow a patient to more effectively participate in a behavioral treatment program or group. With their memory and concentration systems back "on line," these patients can actually learn the new coping skills that they will need to be able to successfully navigate their own particular daily life stressors, while simultaneously maintaining a sober life style.

In figure 1, talking therapy is designed to influence the cells in the higher cognitive centers of the cortex. It can and does work, but only if the brain is willing and able to pay attention, listen and remember. Yet most addicted brains are physically incapable of generating the focus and cooperation necessary for this type of therapy to work. Until the damage has been at least partially repaired, most brains are in no condition to absorb and digest these new ideas. A great deal of the alcohol- or drug-induced brain damage takes place in the limbic region, an area deep inside the brain that is responsible for powerful, primal drives such as hunger, thirst, the need to bond and the need for sexual contact. Talking therapy can help correct problems in the cortex, but it cannot influence the limbic system or other structures found deeper within the brain. This means that even if the substance use disorders patient is able to listen to and understand the therapy, that nearly irresistible emotional drive to get high will remain intact. That's why so many substance use disorders patients relapse early in the recovery process — they simply cannot "get" what their well-intentioned counselors want them to understand. A key component of the new addiction treatment is the new anti-addiction medications designed to rebalance the brain's biochemistry. They help correct imbalances in dopamine and other essential neurotransmitters and accelerate healing of the physical damage in both the limbic region and the cortex. Once this damage has been repaired, a person with



addictions will find it much easier to learn, remember and focus on the cognitive and behavioral changes used in talking therapy to achieve longer-lasting sobriety.

Comprehensive Approach

Once the brain is physically on its way to healing through the use of the anti-addiction medications, we can focus on getting to the core psychological issues that originally triggered and/or fed the addictive cycle. And as we uncover and identify those issues through behavioral therapies, we are able to resolve some and/or provide coping mechanisms and life skills to help manage others.

With more than 12 to 15 different types of alcoholism and 12 to 25 types of narcotic addiction, and various stages to each type, it's no wonder that the traditional treatment models don't work for everyone. It is definitely not a "one treatment fits all" disease. Research shows that the 70 percent of substance use disorders patients who are in the seemingly constant cycle of treatment-recovery-relapse-treatment-recovery-relapse really need a 90-day residential stay, followed by months of comprehensive outpatient programs, behavioral therapies and social support in order to have the optimal chance for lasting recovery. Depending on how severely an substance use disorders patient's brain has been injured, it can take 45 to 90 days or more for the brain's chemistry to "reboot." Beyond that, it takes four to 12 months for an alcoholic brain to heal and get back to normal, and often longer for someone with an addiction to narcotics and/or other drugs. People sometimes want to avoid residential treatment because it's disruptive to their family, their job and their everyday but an substance use disorders patient's brain needs disrupting in order to break the harmful patterns. The first 45 to 90 days are critical to achieving that goal. In other words, a comprehensive approach to alcohol and drug addiction treatment (defined by the NIH research-based findings) incorporates treatments for many different components of a patient's life including: psychiatric care, anti-addiction medication, wellness/nutrition programs, family therapy, stress management, skill building, individual and group psychoeducational components and therapy, spirituality and 12-step fellowships. It takes all of these components individualized to a specific patient's life experience, to be able to approach that 90 percent long term sobriety success rate.

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Dual Diagnosis

For many suffering from addiction, treatment is only half the battle. It is estimated that 50 percent of alcohol abusers and 53 percent of drug abusers also have at least one co-occurring mental illness. These substance use disorders patients have what is called a dual diagnosis, a term used to describe co-existing conditions of a person suffering from a psychiatric illness and a substance addiction problem. A wide variety of psychiatric illnesses can accompany addiction. The most common co-occurring psychiatric illnesses are bipolar disorder, anxiety disorders, depressive disorders, post-traumatic stress disorder (PTSD) and schizophrenia.

Dual diagnosis is not simply one disease added to another. It is one disease *multiplied* by another. The two illnesses can interact, each making the other worse, complicating treatment and increasing the risk of relapse. At times, the symptoms of one may overlap and even mask the symptoms of the other, making diagnosis and treatment much more difficult. The presence of co-occurring illnesses also can slow the recovery process, weakening an individual's resolve to stay sober.

Even if the co-occurring illnesses are correctly identified, it is extremely difficult to get an individual suffering from addiction plus emotional distress to actively engage in and cooperate with the treatment process. The addiction and the psychiatric illness must be managed simultaneously to insure that one illness does not cause a relapse of the other. The combined treatment plan must be comprehensive, coordinated, integrated and flexible. It must include treatment for the psychiatric illness, treatment for the alcohol or drug addiction, participation in a 12-step based program, appropriate non-addicting medication for each illness, as well as family education and participation in treatment for both component illnesses.

A prolonged period of abstinence (30 days or more) from the abused substance is ideally recommended before beginning to treat the psychiatric illness of co-occurring disorders with indicated medications. In some cases, however, psychiatric medications can be crucial to reduce depression, anxiety, paranoia and craving. Any psychiatric medication treatment plan should be prescribed by a physician specifically trained in treating dual diagnosis. Appropriate anti-depression and anti-anxiety medications, including SSRIs or SNRIs, may be appropriate to relieve the symptoms of depression or anxiety without risking an additional addiction.

While there are some general patterns seen in many dual diagnoses — such as depressive disorders are often linked to both alcohol and sedative use, while bipolar disorder is often seen with stimulant and opiate use — there is no solid formula for how these diseases occur. Substance abuse or addiction can be found in conjunction with any psychiatric illness, and vice versa. At times, problems can begin with substance use, abuse or addiction, which grow severe to trigger depression, rage, hallucinations or suicide attempts. But, problems also can start with a psychiatric illness, where

an individual tries to self-medicate with alcohol or drugs. Or perhaps, an individual uses alcohol or drugs recreationally, but because of the preexisting psychiatric illness, he or she is more susceptible to becoming addicted. Whichever way the problems begin, once you have both illnesses, you have to treat both illnesses effectively in a coordinated fashion.

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Family Therapy

Addiction is never just one person's problem; it affects the entire family system. As recently as 2008, researchers argued that family therapy was among one of the most underutilized methods of treatment for drug and alcohol addiction. This is because substance abuse and addiction are no longer considered an individual issue, but instead are viewed as a broader issue that impacts the entire family, affecting the family's health, happiness and well-being. In fact, it has been found that addiction treatment approaches that include and focus on the family, significantly increase a patient's engagement and retention in the treatment process, resulting in improved outcomes for the entire family.

When an substance use disorders patient is in the throes of addiction, family members can feel abandoned, anxious, fearful, angry, embarrassed, guilty and a host of other emotions. The damage extends throughout the family as family members struggle to cover up the problem, work around the substance use disorders patient, deal with their own negative emotions and cope with the responsibilities the substance use disorders patient has left unattended and the roles that are unfilled. Many times the family members can unwittingly become enablers to the substance use disorders patient, allowing the substance use disorders patient to continue their damaging behavior and keeping the addiction in play. For this reason, it is important that family members be involved in the treatment process from the beginning, participating in family therapy sessions for the benefit of both the substance use disorders patient and the family member.

When an substance use disorders patient's family is involved in the recovery process, the family members gain a better understanding of the addiction and the underlying issues. This gives the patient a stronger network of support during and after treatment. He/she is more likely to remain engaged in the recovery process, utilize healthier and broader methods of coping when faced with stressors, and successfully return to employment, school or parenting. Research also has found that family involvement has long-term benefits for the patient and family, such as sustained recovery, increased marital satisfaction and even family and job stability. Also, because the substance use disorders patient's brain is so injured by the substance use, most of the time it is up to the family to help the substance use disorders patient put together a comprehensive treatment approach that is specific for them. So the more science based education that the family has about alcohol and drug addiction, the better they can help guide their loved one to a higher chance of success. I wrote *Healing the Addicted Brain* specifically to educate the families of substance use disorders patients about the new comprehensive approach to alcohol/drug addiction treatment.

Family members can and do suffer from a wide variety of problems related to their loved one's addiction, including: physical, emotional and sexual abuse; anger management issues; poor self-esteem; anxiety disorders; depression; frequent medical illnesses; difficulty in forming and maintaining relationships; martial problems and divorce; and even their own addictions. The effects of addiction are not limited to only the family members living in the same household of the substance use disorders patient. The consequences of addiction are felt by all of an substance use disorders patient's loved ones, and although the family members need a different type of treatment from what the substance use disorders patient is receiving, they still need treatment. Family members need to learn how to recognize the problems caused by the addiction, understand the roles they have unwittingly played in the addiction, assess the psychological damage they have suffered and develop new interpersonal skills.

One of the most common problems seen in families with substance use disorders patients is codependency, a complex relationship between the substance use disorders patient and a family member, or in some cases a friend, that appears to be loving, but is actually dangerous and damaging to all involved. Codependency is a habitual pattern of self-defeating coping mechanisms. Typically, the codependent offers help to the substance use disorders patient, but it is too much help and is often inappropriate. The substance use disorders patient learns to depend on the codependent to help "fix" his or her problems and what begins as a kind gesture, become an enabling mechanism for the addiction. Because the codependent protects the substance use disorders patient from the negative consequences of the addiction, the substance use disorders patient can continue drinking or using. While the codependency is a dysfunctional behavior that family members adopt in order to survive the emotional pain and stress caused by the addiction, in the long run it can be counterproductive and detrimental to an substance use disorders patient's recovery process. Both parties involved, the substance use disorders patient and the codependent family member, should be involved in therapy to understand how to form a healthier relationship. Helping an substance use disorders patient engage in a comprehensive addiction treatment program is never a codependent action, however.

At times, families separate from their loved-ones as the physical, emotional and financial stress of the addiction becomes overwhelming. But, it is important to remember that substance use disorders patients who have encountered such family dynamics are not without support resources. There are a variety of sober support systems that substance use disorders patients can utilize, including but not limited to community groups (e.g., 12-step programs, Recovery Inc., Families Anonymous, etc.), religious and spiritual programs, and even online e-lessons (www.enterhealth.com) and recovery blogs. A substance use disorders patient's family support system does not have to be blood-related relatives, or even the individuals he or she live with. Whether it is a patient's parents, significant other, children, close friends, co-workers or a sober support group, the ability to build a solid system of recovery resources is essential to a patient's ability to sustain his or her life without alcohol or drugs.

Continuum of Care

When an individual completes one phase of addiction treatment,

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you consider the brainwashing you may have endured in your childhood and definitely endured in your military service. The goal of the therapist is to help these soldiers "de-trance," or "wash out" the brainwash. The military spent months preparing soldiers to go to war.[iv,v] A two-hour talk in a gym with two hundred other soldiers while returning their guns and uniforms, however, does not prepare them to come home. They are now different people, unfortunate heroes suffering from the trauma-related symptoms of military PTSD. Furthermore, their families, jobs (if they have jobs) and friends have all changed and moved on with their lives.

If you are a therapist, the following discussion will probably be painful for your clients. Nevertheless, it is also the first step on the road to recovery. What are their expectations now home from battle? Do they expect special treatment, a party and gratitude for their service? How about basic respect? Sadly, this is not the experience of most soldiers.

A final note; I have spent the last decade married to a retired veteran wounded warrior who contributed a great deal to this book. I am also the stepmother of a son who after allowing me to tape his story of addiction and PTSD, and receiving my PTSD workbook said, "Before we met I felt like a wounded dog, now I know I am an unfortunate hero."

Katie Evans Kelley, PhD, CADC III, NCAC II, wrote *Unfortunate Hero: The Soldiers Path From Trauma and Addiction,* which is now in its 2nd edition. *Unfortunate Hero* was a 2011 Pinnacle Book Achievement Award Winner for Best Book in the Category of Non-Fiction. Dr. Evans has been a NAADAC trainer and offers NAADAC-approved independent home study courses and is a contributor to the Hazelden Co-occurring Disorder Series. She has a PhD in psychology from Capella University and is well known for her excellent trainings nationally and internationally. More information is available at www.drkatieevans.com.

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they do not walk out completely sober and free of the challenges that they once had. Their brain is still injured by the chronic medical disease of addiction. The triggers, people and places that challenged and caused their addictions are still there, the same as before they entered treatment. The only difference is that the individual now has the tools and information to defeat or manage those influences. Historically, the leading cause for relapses is failure to follow the prescribed, on-going outpatient addiction treatment plan set up at discharge. To reduce the risk of relapse, it is important that substance use disorders patients have the continuum of care plan that provides consistent touch points to support positive future recovery. Recovered substance use disorders patients should participate in Life Care counseling and focus on true friends, using people for support when experiencing negative feelings and avoiding people, places and activities that were strongly associated with their addiction. They also should continue all of their medications and therapies started in the previous treatment phase.

One key part of the continuum of care is Relapse Prevention Therapy (RPT), a behavioral self-control program that teaches individuals with substance addiction how to anticipate and cope with the potential for relapse. RPT can be used as a stand-alone substance use addiction treatment program or as a Life Care (aftercare) program to sustain gains achieved during initial substance use addiction treatment. Coping skills training is the cornerstone of RPT, teaching patients strategies to:

- Understand relapse as a process
- Identify and cope effectively with high-risk situations such as negative emotional states, interpersonal conflict and social pressure
- Cope with urges and craving
- Implement damage control procedures during a lapse to minimize negative consequences
- Stay engaged in recovery even after a relapse
- Learn how to create a more balanced lifestyle

Coping skills training strategies include both cognitive and behavioral techniques. Cognitive techniques provide patients with ways to re-frame the habit change process as a learning experience with errors and setbacks expected as mastery develops. Behavioral techniques include the use of lifestyle modifications such as meditation, exercise and spiritual practices to strengthen a patient's overall coping capacity. By implementing the most advanced, science-based treatment protocols and incorporating pharmacotherapy into patient-centered treatment plans that address the psychological, relational and spiritual aspects of addiction, we, as an industry, can move beyond traditional approaches that have struggled for the past 40 years to show improved outcomes. We now have the tools to do more than just get substance use disorders patients clean or sober. We can get them well.

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Want to learn more from Dr. Urschel on healing the addicted brain? Check out the archived webinar the Addicted Brain: Cutting Edge Science and Brain Neurochemistry at www.naadac.org/education/webinars.