

Recovery & Relapse

An Interview with Darryl S. Inaba, PharmD, CADC V, CADC III

Interview by Ashley Johnson

This column's questions on the recovery and relapse were posed by Ms. Ashley Johnson, a journalism major at University of Winchester in England. Submit your questions for Dr. Inaba to the Managing Editor at igleason@naadac.org.

Ms. Johnson: Can/is the addicted brain restored after a period of sobriety/abstinence?

DR. INABA: If no permanent damage or injury to the brain has occurred, long-term sobriety/abstinence known as "recovery" can restore great functionality to the brains of those with substance use disorders. Brain cells that are lost to the addiction process will not be regenerated, but other extra brain cells take over their function with long-term sobriety. This has been clearly demonstrated by brain scans of people in recovery that show progressive gains in the brain activity and functionality with each month of sustained abstinence in people in recovery.¹ Drugs of addiction turn off neuron activity because the brain mistakes the drug for an over abundance of its own chemical messengers known as neurotransmitters.² With sobriety, the brain identifies an abnormally low neurotransmitter balance and reactivates its process to regenerate its natural neurotransmitter equilibrium.

If brain damage wrought by addiction is severe, then the person will be affected for life as humans do not grow a lot of new brain cells after the age of six or so. Loss of IQ³, some thinking/decision processes along with some mental health disorders,⁴ Korsakoff's Psychosis,⁵ and Parkinsonism,⁶ are a few of the persistent brain disorders caused by severe long-term addiction that do not return to full functional abilities with sobriety. Fortunately, long-term functional impairment to the brain are fairly rare. The vast majority of people in recovery enjoy a steady return to good brain functioning with continued abstinence as documented in the brain scans studies mentioned previously. However, it is vital for people with substance use disorders to be aware that though recovery is able to restore brain function, it will not cure addiction. If one has developed addiction, long-term sobriety will result in great or at least better brain functioning, but if a person in recovery resumes drug use, addiction with all of its mental, behavioral and life problems will return very quickly as the brain's processes involved with addiction are merely dormant during the period of abstinence and will reactivate quickly if stimulated.⁷ The National Institute on Drug Abuse clearly establishes this reality in their media guide that defines addiction as a chronic, relapsing brain disease with brain changes that can be long lasting leading many to harmful, often self-destructive behaviors.⁸



Ms. Johnson: Why do you think people have relapses?

DR. INABA: I believe that relapse is unduly stigmatized and that those who experience an interruption in their abstinence are made to feel too much shame and guilt that makes it difficult for them to reengage in their recovery efforts. Addiction is a chronic persistent medical disorder not unlike diabetes, panic disorder, asthma, depression or hypertension. Positive outcomes from treatment of addiction fares comparatively well to those other conditions and in some cases there are many less relapses in addiction treatment than in the treatment of other persistent medical disorders. This point is very well established by Dr. Tom McLellan with his research on relapse and treatment outcomes of various chronic persistent medical disorders.⁹ When someone with hypertension, diabetes or panic disorder relapses during his or her treatment, he or she is not met with the same negativity that greets a relapsing person with a substance use disorder. People with substance use disorders do have to accept that a single involvement with their addictive substance or behavior will usually

result in a full blown relapse and that the consequences that result usually get worse and worse with each subsequent relapse.¹⁰ But, if a slip or relapse results in severe stigma that will cause great feeling of shame and hopelessness preventing a person with addictive disorder from reengaging in treatment or recovery the consequences are greatly magnified. Thus, it is best to avoid any potential exposure to using with all the resources that can be mustered to do so. Treatment professionals need to accept that relapse is a characteristic of all chronic persistent medical disorders and look on them as opportunities to develop new strategies to help their clients avoid taking that first hit in the future. My experience is that more people with substance use disorders die during relapses than when they first get strung out because of the shame and guilt currently associated with relapse that hinders them from immediately reengaging in recovery. The stigma of even the word relapse is so heavy in addiction that I proposed that we rename these occurrences as recrudescence to soften the negativity associated with the condition.

Recrudescence, like addiction, is a brain

process that starts in the unconscious meso cortex or animal mid brain structures of humans. Cravings to reengage in drug use activated by exposure to emotional memory triggers, stress, decreased natural neurotransmitters from drug use, or even from emotions stirred by positive life experiences like romance, parenting or winning the lottery all activate the addiction pathway to create a craving to resume drug use. As explained in my response to an earlier question, addiction hijacks parts of the brain's unconscious preservation instincts and conspires to keep the person with addictive disorder using. Then, decision areas in the thinking part of the brain, the neocortex, turn off and make it difficult to enforce any decision not to use.¹¹ The nucleus accumbens our survival "go switch" becomes dysfunctional with continued use creating a strong urge to use drugs. Powerful emotional memories of using that emphasize the benefits of using and downplay the negatives are also activated by any stimulus: sight, smell, place, using partner, an emotional event, etc. also activate the brain's addiction, really its survival-reinforcement pathway, to get a person with addictive disorder to start using again.¹² Additionally, the human hormonal stress cycle is interrupted by addiction creating uncomfortable feelings from any stress (relationship, money, life problems). The addicted brain and body is unable to regulate stress to turn off the discomfort caused by stress in its normal way with cortisol, its own natural regulatory hormone thus keeping the person with addictive disorder in a stressed out state that causes a strong urge to reinitiate drug use.¹³ All of this makes it difficult for those in early recovery to remain abstinent and often results in relapse. Brain imaging research on relapse has demonstrated sensory cues (sights, sounds, odors, feelings) to addiction in recovering addicts trigger the activation of the amygdala (the brain's emotional coordination switchboard) and the cingula (where bonding is formulated in brain) while at the same time the frontal cortex (executive decision making area of the brain) is deactivated.¹⁴ Some are more vulnerable to these effects than others resulting in a wide spectrum of how many times someone relapses before they are able to maintain long-term sobriety. Intriguing brain imaging research by the University of San Diego and at Yale University also document decreased brain activity in key decision areas of the brain that can predict relapse within a year of graduating from addiction treatment

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Meanwhile, state governments have struggled to take on industry problems. In many cases, states were caught flat-footed as the industry experienced explosive growth, without the trained personnel to exercise needed regulatory oversight. In California, for example, a decision was made to close the California Department of Alcohol and Drug Programs in 2013, assigning its functions to the Department of Health Care Services. This transfer of responsibility and reorganization was ill timed, coinciding with massive growth in the number of operators and facilities.

It is no surprise that major changes in industry-wide compliance take time. The business of substance use disorders is making strides, as a growing number of operators are sensitized to the legal and safety risks. Progress cannot happen fast enough, as the number of people with substance use disorders needing help (as well as the numbers of addictive substances presenting public health problems) continue to grow, translating into a shortage of access for people in need of treatment. Existing treatment programs, hospitals, and doctors cannot accommodate the surge of patients who now have insurance coverage. Let's hope that 2016 will be a time to begin building a more accessible, effective, affordable, and safer substance use disorder treatment infrastructure.

ENDNOTES

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with up to 90% accuracy.¹⁵ The good news is that the brain is resilient and able to regain its functionality if given sufficient time to do so — at least 14 months to 2 years from current studies — which can lessen the relapse potential. (Volkow ND, Hitzemann R, et al., 1992; Volkow ND, Chang L, et al., 2001).

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