by Thomas Hedlund, L.M.F.T.

Overcoming Roadblocks to Recovery

The Emerging Brain Science of Addiction, Trauma and Shame

Our science is beginning to catch up with our intuition. In the past few years, due to advances in brain science technology, we are beginning to gain fundamental understanding into the actual working of the human brain. This is leading us to new insights into the sometimes baffling nature of addiction, post-traumatic stress and relapse.

As we have new capabilities to investigate and observe human brains while actually in the afore mentioned processes, we are beginning to understand differences between normal human brain functions and those of both addiction and trauma-bound individuals. We can now actually see the differences in functions and brain organization that occur as a result of addictive behaviors, as well as being able to see how trauma invades brain development and creates new pathways and obstacles that allow survivors to cope. In short, the brain's solutions and adaptations to problems become problems in themselves for the person to overcome on their pathway to recovery.

Let me start with the story of Clyde. Clyde was a United States Marine veteran, who had almost been killed by friendly fire on three separate occasions during his stay in Vietnam. Once buried alive and left for dead by his buddies, another time the sole survivor of an artillery round falling short that killed his whole platoon and another horrific event where not only was the enemy trying to kill him, but his friends almost did too!

Art Titled "Keep Irght" by Carol J. Hollingshead
Courtesy of NARSAD

A vet that had been dispatched to the back ward before I met him, he was maintained on seven different medications, married to a lovely co-dependent woman and having trouble sleeping. As he sat trembling, rocking and shaking in my office, I asked him how he relaxed. He answered by saying that if the voices and noises in the night got too intense, he would do the following: reach under his bed, take out his M-16, put a round in the chamber, place the muzzle in his mouth with his finger on the trigger, and then release the safety. Only then could he relax! All this while his wife slept soundly next to him, and his children slept nearby in another room. His reasoning was simple — he now had control over events, he was master of his own destiny and he could stop the intolerable fear and pain.

These images troubled me for years. He was calming and soothing himself by relying on his ability to kill himself! This made no sense to me at the time, but I had much more to learn about addiction and trauma in the years to come. Today, I see this as the hallmark of addictive behavior that has gone completely awry. Our many and various forms of compulsive, self-abusive and self-destructive behavior are often attempts to regain lost control over our emotions and our nervous system while providing a sense of mastery and relief.

Today we know that trauma sits in the limbic system of the brain in such a way that we can continue to live in the emotional climate of that trauma long after it is over. This part of the brain has no clock, no sense of time. When it is activated through circumstances, events, thoughts, sensations, feelings or memories, the experience is one that takes place in the present — not the past. Complicating things further, we now know that the more we are aroused by fear, the further down the brain system we regress in our thinking ability. As we become more afraid, our thinking brain starts to shut down! This is typified by the saying, "We do not know the things we know!" Furthermore, we have learned that adrenaline consolidates memories so that, when we experience this arousal, current events then also become triggering events — meaning we are progressively incorporating more and more stimuli as triggering mechanisms, thus losing more and more conscious control over our emotional states.

New animal research has indicated that this very existence of stress within the brain can actually trigger the reward seeking response. What this means is that as we lose containment of our emotional states, and brain stress accelerates, the natural mechanism to compensate for this is the very system that addiction has corrupted! Since, in both cases, these structures primarily involve the midbrain and limbic system of the brain, the activity taking place is not only beyond our conscious control, but it actually takes hold of our conscious activities and directs us towards the compulsive "cure."

Just as the trauma and adrenaline consolidate memories in the brain, so do addictive chemicals and behaviors. Consequently, more and more stimuli and circumstances become occasions to "use" as the addictive disease progresses. So, the very parts of the brain that would otherwise counsel us to think more carefully about what we are about to do, are now recruited by the deeper systems of the brain to **HELP US FEEL BETTER RIGHT NOW** by doing the very thing that will cause further problems!

Sadly, once the reward/pleasure pathways are activated, the brain tells us that everything is OK and is remembering how we did this. This repeated activity and learning becomes the primary circuitry of the brain. The brain develops through activity so that it becomes more and more efficient in repeating these thoughts and behaviors. Both of these systems in the brain are called the action circuits. This means that they originate in the deep structures of the brain — the ones that involve action without the need for prior thinking. This helped to explain the shocking realization of my research, both personal and professional, in that these reward-seeking pathways are not involved in the consideration of negative consequences! Involved only in the pursuit of relief and pleasure, they operate independent of any regard to threat, negative consequence or rational thinking.

So, picture our thinking brain going offline as stress accelerates, and our pleasure/reward pathways directing us toward behaviors that more rational people would avoid. It is easy to imagine the sense of hopelessness and shame that is created from these reactive, irrational and self-defeating behaviors. These feelings of hopelessness and shame by themselves can and will activate the mechanisms further, leading to the downward spiral into powerlessness and unmanageability associated with all addictive behaviors.

One dear friend commented, ***"This is great! Now that you have convinced me that my brain is broken, you haven't given me a new one to fix it with!"*** On a more hopeful note, the exciting thing about all this science is that it provides validation for the twelve step recovery processess. The various processes of sponsorship, self-examination, self-disclosure, learning to depend and rely on others for help and learning to follow defined structure and spiritual principles actually provide vast amounts of support. Support that allows us to change how our brains think while developing new pathways of action that can enhance our life and health.

With education and accurate information, we can begin the never-ending process of reducing and healing shame, trauma and addiction. We can continue to create effective programs that actually support people in reclaiming conscious control of their nervous systems and lives. We can also begin the process of helping children and parents prevent shame and trauma before it can create the voracious hole that fuels all addictive processes. As science continues its progress, we may eventually find concrete solutions to assist us in reducing our vulnerability to both the internal and external circumstances that cause so much suffering.▼

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