Chronic Pain and the Hijacked Brain

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In order to achieve the best quality of life and level of functioning, people living with chronic pain must learn as much as they can about the subject of pain and what constitutes effective pain management. We know that pain is a signal that tells us there is damage or something wrong with our system. However, with some chronic pain conditions the system (including the brain) gets altered. The pain system gets turned on and cannot be turned off. I call this the "hijacked" brain or what is often referred to as Neuroplasticity (also called brain plasticity, cortical plasticity or cortical re-mapping). A surprising consequence of neuroplasticity is that the brain activity associated with a given function can move to a different location as a consequence of normal experience or brain damage/recovery. In the case of chronic pain this can mean that pain signals keep occurring despite lack of a trigger or tissue damage.

According to research published in Annals of the New York Academy of Sciences 933:175-184 (2001) titled Spinal Cord Neuroplasticity following Repeated Opioid Exposure and Its Relation to Pathological Pain; convincing evidence has accumulated that indicates there are neuroplastic changes within the spinal cord in response to repeated exposure to opioids. Such neuroplastic changes occur at both cellular and intracellular levels. Unfortunately, most pain conditions in this country are treated with opiates—some research shows as high as 90 percent of people undergoing pain management are prescribed opiates. With so many people living with chronic pain and using opiates, these neuroplastic changes need to be better understood.

I like to use simple language and metaphors or visual images when educating my patients. Many people may not understand the term Neuroplasticity so I use the metaphor of the hijacked brain. I tell them the reality of neuroplasticity science is much more complex, but in essence what happens is that the brain forms pathways (called neuro-networks) that eventually become super highways—in other words the new neuro-network becomes more complex and elaborate.
In order to replace pain behaviors or suffering with reduction or elimination of pain, new brain pathways need to be developed. My friend and colleague Terry Gorski uses the example of living in a rural area with an outhouse over a hundred yards from the back door. Between the back door and the outhouse is a field of heavy vegetation that is very hard to walk through. On the first trip it takes a long time and is very difficult but some of the vegetation is getting tramped down just a little so the trip back is not quite as hard. After several trips it gets much easier.

I expand this metaphor by saying treatment is like gaining access to landscaping equipment that will assist you in putting in a paved path to your goal—effective pain management. It is crucial to develop new ways of thinking, more effective methods of managing painful emotions and new ways of behaving that will improve pain management and quality of life. To do this, new neuro-pathways need to be generated and used over and over until the highway is built. Unfortunately, there are many obstacles that can get in the way and detour people back to the old highways.

The Addiction-Free Pain Management® (APM) System is designed to assist people in building these new brain pathways to address obstacles to effective pain management. One of the most common are pain flare ups caused by painful or stressful situations. For example, the APM™ Workbook helps people identify and develop management strategies for high risk situations and pain flare ups. The APM Recovery Guide: Managing Pain & Medication in Recovery was developed to educate people about chronic pain and coexisting disorders including addiction and how to more effectively complete the APM™ Workbook. These are but two of the tools that can help people take back their hijacked brain—knowledge combined with action is power!