

COHERENCE

THROUGH CHIROPRACTIC





COHERENCE

THROUGH CHIROPRACTIC

COHERENCE: The quality of forming a unified whole.

Connection. Consistency. Integration. Unity.

COHERENCE THROUGH CHIROPRACTIC is a quarterly publication highlighting chiropractic research focused on vertebral subluxation. It is devoted primarily to serving the educational needs of the general public and the chiropractic profession.

The individual articles and links to other healthcare information in **COHERENCE THROUGH CHIROPRACTIC** are based on the opinions of the respective authors.

The information provided is not intended to replace advice from a licensed healthcare professional and is not intended as medical advice.

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ARTICLE SUBMISSIONS

If you would like to submit an article to be included in a future issue we encourage the submission of topics focused on vertebral subluxation and the role chiropractic plays in salutogenesis.

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GIVE UP**

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NOT ALONE**

**YOU
MATTER**

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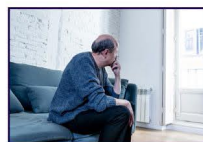


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Recovery and Renewal from ADDICTION

Chiropractic Plays a Central Role

I had the good fortune to work as a Clinical Assistant for several years in a psychiatric hospital that specialized in the management of addiction before graduating from chiropractic college. I saw first-hand how addiction destroys people's lives and families. It was heartbreaking watching people of all ages struggle with their addiction. It was most difficult working with children and teenagers who got caught up in the struggle.

These days it seems nearly everything we do can become addicting with the formal list of addictions continuing to grow including: nicotine, alcohol, illegal drugs, prescription drugs, gambling, sex, and food. Video games, social media and others are sure to pop up in discussions of addiction as well these days.

The addiction to prescription drugs, *especially opioids*, has literally led to a crisis around the world as people suffering needlessly with chronic pain have turned to these powerfully addictive drugs in order to find some relief. Come to find out that these chronic pain sufferers were duped into believing that these powerfully addictive opioids were their only option to escape the pain and suffering they were experiencing. Now we know that the pharmaceutical industry and the doctors that push these drugs for them intentionally hooked these poor people on these drugs in the name of profit instead of recommending non-drug interventions such as – chiropractic.

The truth is that there is probably more research supporting the role of chiropractic in helping people that are in acute or chronic pain than anything else. The opioid crisis just brought it to the forefront and has resulted in policy changes from the Federal government as well as state governments that are now forcing medical doctors to offer non-drug options for the management of their patients' pain. Chiropractic happens to be the most popular alternative. Sadly millions of people had to become addicted to these drugs and hundreds of thousands had to die before the powers that be finally admitted there was a problem and a better solution.

According to the Centers for Disease Control & Prevention (CDC) and the National Institutes of Health (NIH) drug overdose deaths continue to increase in the United States. From 1999 to 2017, more than 702,000 people have died from a drug overdose. In 2017, more than 70,000 people died from drug overdoses, making it a leading cause of injury-related death in the United States. Of those deaths, almost 68% involved a prescription or illicit opioid.

Misuse of prescription opioids affects more than 2 million Americans and an estimated 15 million people worldwide each year. The prevalence of opioid misuse and addiction is rapidly increasing. In 2016, more than 20,000 deaths in the United States were caused by an overdose of prescription opioids, and another 13,000 deaths resulted from heroin



overdose. Drug overdoses are now the leading cause of death in U.S. adults under age 50, and opioids account for more than half of all drug overdose deaths.

But chiropractic care as a solution is only part of the chiropractic story because as strange as this is going to sound – *chiropractors don't treat pain.*

What do I mean by that? As we will see in this issue of **COHERENCE** research has shown that people who are in pain and people struggling with addictions and the related emotional challenges such as depression, not only have these problems but they more importantly have problems with *how their nervous system is functioning.* The philosophy and science of chiropractic teaches us that all health challenges boil down to the inability to *adapt* to the onslaught of physical, chemical and emotional challenges we experience every single day.

This is also the current thinking when it comes to managing pain and addiction. For purposes of our discussion we will focus on physical disconnections and obstructions between the nervous system and what is called the *Brain Reward Cascade.* These can happen due to abnormal, or garbled communication between the brain and the body through the nervous system. Think about crossed wires, poorly written computer code or stepping on a garden hose with water flowing through it.

Our body's ability to *adapt* to internal and external health challenges and mount a response is the key to overcoming the results of the physical, chemical and emotional stresses that fundamentally cause all human ailments – *if we cannot adapt to those stresses.* One of the most important ways chiropractors help us do this is to make sure the nervous system is not being obstructed and the connections are good. This is because the nervous system controls and *coordinates* all functions of the body.

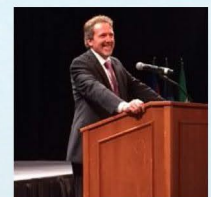
Chiropractic is about removing obstructions to the proper functioning of the nervous system and improving connections. These obstructions are caused by shifts in the bones (vertebra) that make up the spine and these shifts obstruct the nervous system and create a disconnect. Because the nervous system controls and coordinates *all* functions in the body, obstructing or disconnecting it can have an effect on every function of the body - and it often does.

These obstructions are referred to as **vertebral subluxations** in the scientific literature and adjusting them is how chiropractic helps people stay connected and healthy. This includes people in pain and people with addiction. Chiropractors aren't "treating" the pain or the addictions or the related depression. Chiropractors are removing the obstructions. And once the obstructions are removed the healing begins and recovery is hastened along with revival and rejuvenation.

Enjoy this issue of COHERENCE!

A handwritten signature in black ink, appearing to read 'Matthew McCoy'.

Matthew McCoy DC, MPH
Editor – COHERENCE





The Holder Study

A research study by Holder looked at the effects of chiropractors correcting vertebral subluxations in enhancing the well-being of individuals suffering from addictive disorders. This was a landmark, randomized, placebo control, single blind study.

The study, involving the University of Miami School of Medicine and Exodus Treatment Center, demonstrated that chiropractic adjustment to the spines of addicts to reduce vertebral subluxation enhanced their ability to complete a 30-day treatment protocol at a 100% retention rate compared to 56% in the group not receiving chiropractic. The chiropractic group also had significantly lower anxiety and depression levels and did not make as many visits to the nurse's station.

Think about this for a second.

These were court ordered patients who had severe addictions and now found themselves in a treatment center and not able to use their drugs of choice. Even if you have never struggled with addiction you can imagine that if you were addicted to drugs (or anything else) and they were suddenly taken away from you for an extended period of time you would probably get depressed, experience anxiety and you would probably be going to the nurse's station a lot because of your distress. Chances are if you had the chance to get out of the facility before your 30 days was up you'd find a way out.

Well, those under chiropractic care in this study did not leave. And they had less anxiety, were less depressed and they didn't bother the nurses. Everyone involved in addiction treatment knows that the longer someone stays in their 30 day treatment program the more likely they are to stay in recovery and not relapse.

Stand on Your Own Two Feet

Long before humans started walking on two feet we were walking around on all fours in one way or another. According to scientists the move to an upright stance and walking on two feet (called *bipedalism*) is actually responsible for the development and evolution of the human neocortex and the comparatively large human brain.

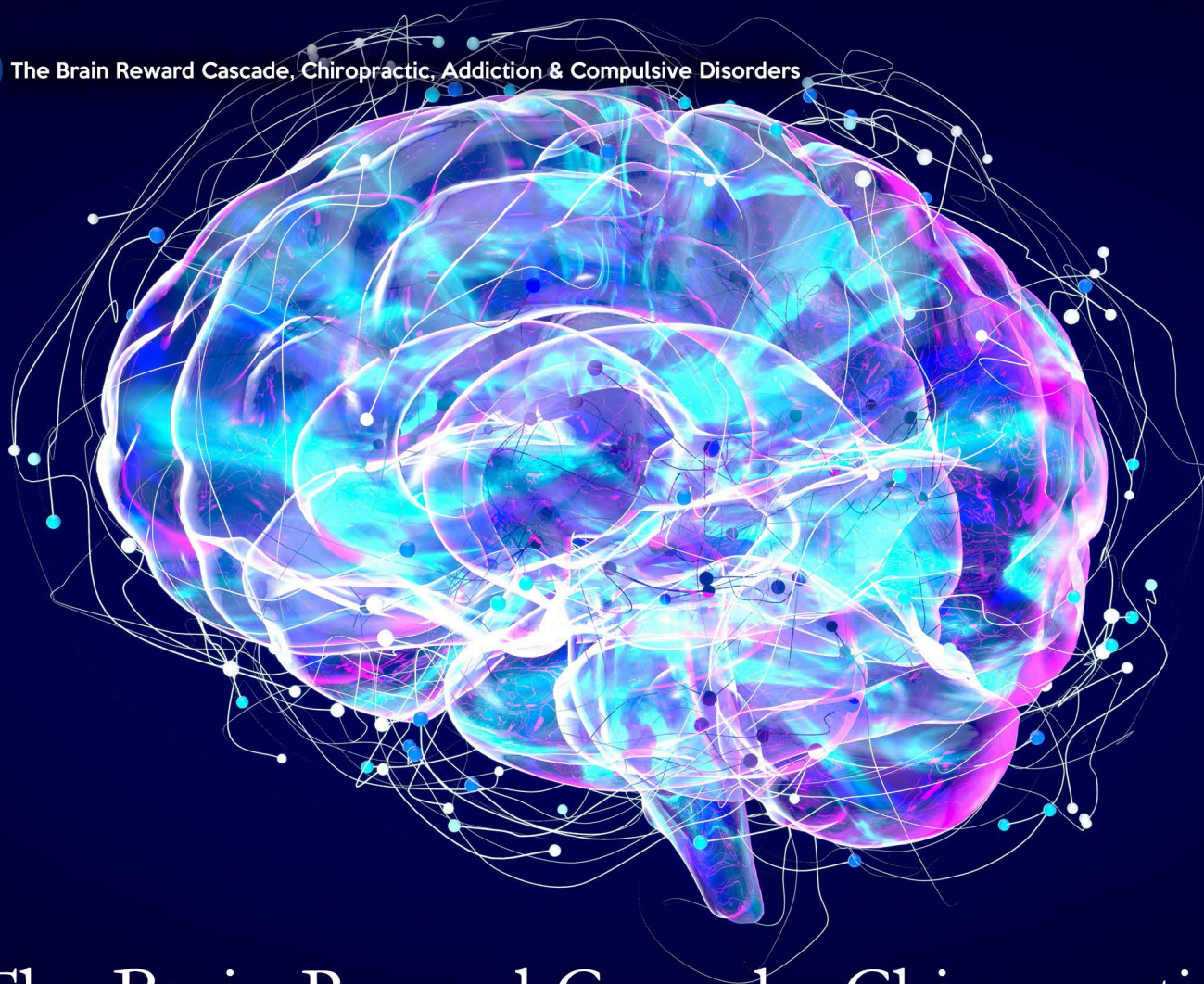
Humans have what are called "postural muscles" and these muscles are the main conduit by which motor and cognitive binding evolve means that abnormalities in postural development or activity may disrupt cerebellar and cortical maturation. These postural muscles do their job without us even having to think about it.

OK - that's a little technical, but it's important. It means that if a person has structural spinal problems that lead to obstruction of the nervous system (vertebral subluxation) then the part of the brain that "thinks" and the part of the brain that helps us "move" and do it in a coordinated fashion will not develop properly, will not function properly and it won't happen smoothly.

This is because of the relationship between cognition (thinking) and motor functions (movement) and because the same mechanisms enabling coordinated movements (balance) also affect sophisticated cognitive (thinking) processes.

Reference:

Holder J, Duncan Robert C, Gissen M, Miller M, Blum K. Increasing retention rates among the chemically dependent in residential treatment: Auriculotherapy and subluxation-based chiropractic care. J Molecular Psych Vol 6, Supplement No. 1. March 2001.



The Brain Reward Cascade, Chiropractic, Addiction & Compulsive Disorders

Our brains and nervous system are wired to feel good

People often wonder how the spine and nerves can be involved in so many things that chiropractic can help people with. It usually makes sense to people that chiropractic can help with pain - that doesn't take much to understand those connections. But addiction? What could chiropractic possibly offer to those suffering and struggling with this personal battle?

Before diving in to how chiropractic can help people break the cycle of addictive and compulsive disorders its time for a very brief anatomy lesson. I promise – it will be brief!

The Seat of Human Emotions - The Limbic System

The limbic system is the part of the brain involved in our behavioral and emotional responses, especially when it comes to behaviors we need for survival such as feeding, reproduction, caring for our young and fight or flight responses.

You can find the structures of the limbic system buried deep within the brain, underneath the cerebral cortex and above the brainstem. These nervous system structures involved include the

thalamus, hypothalamus (which produces important hormones and regulates thirst, hunger, mood etc) and basal ganglia (reward processing, habit formation, movement and learning).

Two other major structures involved in the limbic system are the hippocampus and the amygdala.

Hippocampus

The hippocampus, like many other structures in the brain, comes as a pair, one in each hemisphere of the brain. It resembles the shape of a curvy seahorse and is essentially the memory center of our brains. Here, our memories are formed and catalogued to be filed away in long-term storage across other parts of the cerebral cortex.

Connections made in the hippocampus also help us associate memories with various senses (the association between Christmas and the scent of gingerbread would be forged here). The hippocampus is also important for spatial orientation and our ability to navigate the world.

The hippocampus is one site in the brain where new neurons are made from adult stem cells. This process is called neurogenesis, and is the basis of one type of brain plasticity. So it's not surprising this is a key brain structure for learning new things.

Amygdala

The amygdala's name refers to its almond-like shape. Located right next to the hippocampus, the left and right amygdalae play a central role in our emotional responses, including feelings like pleasure, fear, anxiety and anger. The amygdala also attaches emotional content to our memories and so plays an important role in determining how robustly those memories are stored. Memories that have strong emotional meaning tend to stick.

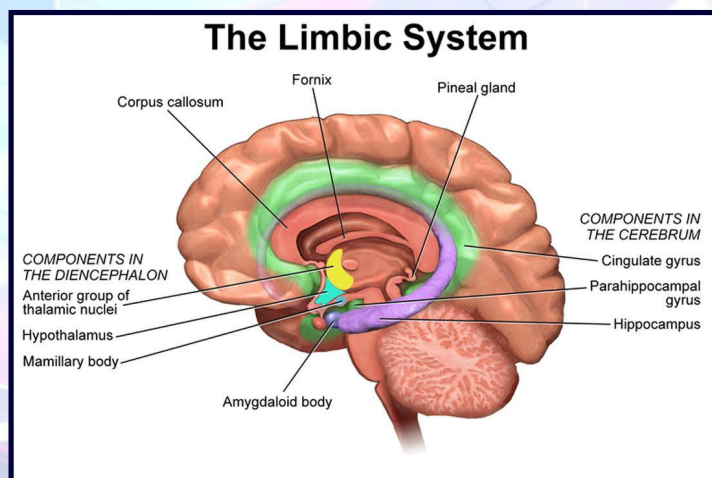
The amygdala doesn't just modify the strength and emotional content of memories; it also plays a key role in forming new memories specifically related to fear. Fearful memories are able to be formed after only a few repetitions. This makes 'fear learning' a popular way to investigate the mechanisms of memory formation, consolidation and recall.

The Brain Reward Cascade

So what do seahorse and almond shaped structures in our brain that control our feelings and memories have to do with chiropractic, addiction, recovery and compulsive disorders?

They have to do with the concept of the *Brain Reward Cascade* and its relationship to addictive and compulsive disorders. Disorders such as addiction, attention deficit, Tourettes, autism and others are considered part of the spectrum of what is referred to as *Reward Deficiency Syndromes*. These syndromes are related to a dysfunction of a gene for the *D2 dopamine receptor*.

And just what is **dopamine**? Dopamine is the main chemical of pleasure. So when you are feeling good you can thank the dopamine swimming around in





your body. Addiction and compulsive disorders are multifactorial meaning they have genetic, psychological, physical and spiritual components. Research has shown a genetic component in the form of a defective gene for the Dopamine D2 receptor. Nerve transmitters need receptors to do their job, so if a receptor is missing or defective then things don't happen the way they are supposed to.

When functioning normally, the human organism is capable of producing a cascade of brain chemicals (Brain Reward Cascade) which results in a sense of *well-being*.

People suffering from the defective gene are unable to produce a reward cascade and are then said to suffer from *Reward Deficiency Syndrome (RDS)*. Those individuals are unable to produce a feeling of well-being and consequently, turn to addictive substances or compulsive behaviors that momentarily make them feel better - *give them pleasure*.

RDS can be manifested in mild forms such as chain smoking or in more severe forms such as in chemical addictions. Alcohol addictions, obesity, nicotine addiction, attention-deficit/hyperactivity disorder, cocaine addiction, Tourette's Syndrome and post-traumatic stress disorders are *Reward Deficiency Syndromes*.

Vertebral Subluxation & the Brain Reward Cascade

Many things can interfere with the normal function of the Brain Reward Cascade, including, but not limited to: genetic factors; loss of normal neurological function (obstructions from vertebral subluxations) due to physical, emotional and chemical traumas; illness, nutritional deficiencies; and drug and medication interactions.



"The amygdala and hypothalamus are two such nodal points, of course. Moreover, they are particularly rich areas, because they contain receptors for essentially every neuropeptide we so far have identified. If our reasoning is correct - that the presence of a heavy density of neuropeptide receptors identifies a part of the limbic system - our research suggests that the usual picture of the limbic system should be extended to include the spinal cord, for a third area enriched with neuropeptide receptors is the dorsal horn of the spinal cord."

Candace Pert Ph.D

In animals with spines (like humans) the vertebral joints are intimately related with the Brain Reward Cascade because of the *nocioceptive* (pain) reflex from vertebral joints to the limbic system where the Brain Reward Cascade takes place. Research has shown that the limbic system is not just in the brain, but also extends to the *spinal cord* - especially the dorsal roots and dorsal horn. These are the same places that chiropractors adjust people who have subluxations.

These physical disconnections and obstructions between the nervous system and the Brain Reward Cascade can happen due to abnormal, or garbled communication between the brain and the body through the nervous system. Think about crossed wires, poorly written computer code or stepping on a garden hose with water flowing through it.

Our body's ability to adapt to internal and external health challenges and mount a response is the key to overcoming the results of the physical, chemical and emotional stresses that fundamentally cause all human ailments. But what if we cannot *adapt* to those stresses?



One of the most important ways chiropractors help us *adapt* is to make sure the nervous system is not being obstructed and the connections are good. This is because the nervous system controls and coordinates all functions of the body.

Chiropractic is about removing obstructions to the proper functioning of the nervous system and improving connections. These obstructions are caused by shifts in the bones (vertebra) that make up the spine and these shifts obstruct the nervous system and create a disconnect. Because the nervous system controls and coordinates all functions in the body, obstructing or disconnecting it can have an effect on every function of the body - and it often does.

These obstructions are referred to as vertebral subluxations in the scientific literature and adjusting them is how chiropractic helps people stay connected and healthy.

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Chiropractic, Mental Health & the Nervous System

It makes perfect sense when you think about it

History of Chiropractic & Mental Health

The chiropractic profession has a long history of acknowledging the relationship between nervous system function and mental health.

Although many chiropractors and those they serve tend to focus on disorders associated with the physical body, abnormal nervous system function may also affect emotional and psychological health.

D.D. Palmer founded the chiropractic profession 123 years ago and described vertebral subluxations

as “slightly displaced vertebrae which press against nerves causing impingements, the result being too much or not enough functioning”

According to his son, B.J. Palmer, "D.D. Palmer was the first man to discover that insanity was caused by displaced cervical vertebrae and that by replacing them the patient could be restored to normal condition"

B.J. also described his expert testimony in a case where he stated, "If an atlas is subluxated it makes abnormal the functions of the brain."

In answer to the question, "What is to be done in insanity?" he admonished his reader to "Go back to cause. Adjust that and return that brain to its normal capacity and capability"

Another pioneer in the field of mental health and chiropractic was attorney and chiropractor Willard Carver. Carver authored the book, *Psycho-Bio-Physiology*, and wrote, “Between the Psychology and the Physiology I have built the Biologic bridge that scientifically connects these two very important departments of human experience”

Chiropractic Mental Health Hospitals

In the 1920s, several inpatient mental health facilities were established where chiropractic adjustments were the dominant clinical service provided. Two of these were located in Davenport, Iowa.

In 1922, the Chiropractic Psychopathic Sanitarium was established. The facility was later known as Forest Park Sanitarium. North Dakota Judge A. W. Ponath noted that at the North Dakota state mental hospital, the "cure and discharge rate" ranged from 18-27%, compared to 65% at Forest Park.



The second facility, Clear View Sanitarium, was established in 1926. In 1951, Clear View was acquired by the Palmer School of Chiropractic. Chiropractor W. Heath Quigley, who directed the sanitarium, described the clinical protocol stating that each day, each patient was examined and if the clinician found nerve impingement, the patient was adjusted.

Quigley reported that the rooms were "sunny and bright," and that meals included "large servings of fresh vegetables...from a garden".

Unfortunately, both institutions closed, (Forest Park in 1959 and Clear View in 1961) in large measure because of third party pay issues. Insurance companies often refused to pay the costs of care. Furthermore, Iowa statutes at the time did not provide for licensing specialized hospitals; only full service medical hospitals were eligible for licensure. Clear View was not licensed as a hospital, and functioned legally as a nursing home.

The chiropractic profession has a long history of acknowledging the relationship between nervous system function and mental health.

Research & Scholarship on Chiropractic and Mental Health

The 1970s saw a renewed interest in chiropractic care and mental health issues. In 1973, Chiropractor Herman S. Schwartz edited a book titled "Mental Health and Chiropractic: A Multidisciplinary Approach." Contributors included Nobel Laureates Rene Dubos and Linus Pauling.

In 1949, Schwartz had published a preliminary report of 350 patients afflicted with a "nervous or mental disorder" and reported that the majority of them showed improvement under chiropractic care.

In 1983, Quigley authored an article describing a four decades period where "treatment of the mentally ill was a highly motivated discipline within the chiropractic profession".

In 1988, Goff wrote a review of the theory and practice of "chiropractic treatment for mental illness".

Interest in this field continues. Blanks, Schuster and Dobson published the results of a retrospective assessment of subluxation based chiropractic care on self-rated health, wellness and quality of life. This is the largest study of its kind ever undertaken regarding a chiropractic population. After surveying 2,818 respondents in 156 practices, a strong connection was found between persons receiving chiropractic and self-reported improvement in health, wellness and quality of life.

A systematic review was published which examined psychological outcomes in randomized controlled trials of spine manipulation. The study concluded that there was evidence that spinal manipulation improved psychological outcomes compared with verbal interventions. The clinical implications are that physical treatments, such as chiropractic have psychological benefits.

"If an atlas is subluxated it makes abnormal the functions of the brain."

- BJ Palmer

Genthner et al reported on a series of 15 patients with a history of depression. The Beck Depression Inventory II (BDI-II) was used to measure the baseline level of depression and any changes following chiropractic care. The results demonstrated significant improvement in depression test scores.

A study evaluating the role of chiropractic care in persons undergoing inpatient addiction care consisted of a three arm randomized clinical trial with two control groups (one receiving usual medical care, and the other placebo controlled).



This was a single blind study utilizing subluxation-centered chiropractic care in a residential addiction care setting. Those receiving chiropractic care showed a significant decrease in anxiety, less depression, less nursing station visits and all of them completed the thirty day program - which is unheard of in addiction management.

Other articles addressing mental health issues and chiropractic care have been published, ranging from single case reports to randomized clinical trials. Favorable responses were reported in persons with

conditions including depression, ADHD, autism, dyslexia and learning disabilities.

Additionally, published papers report changes in general health measures in chiropractic patients using the RAND-36 and Global Well Being Scale (GWBS), changes in domains of health related quality of life among public safety personnel undergoing chiropractic care, and chiropractic care in patients with cancer-related traumatic stress symptoms.

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Infant Born Addicted to Amphetamines and Opiates Gets Health Back Following Chiropractic

Chiropractic plays a role in ending unnecessary suffering

While society tends to focus on addiction and the effects of drugs and alcohol in adults, the sad reality is that newborns and children are also effected and they generally don't have a choice in the matter.

The use of opioids during pregnancy can result in a drug withdrawal syndrome in newborns called neonatal abstinence syndrome or neonatal opioid withdrawal syndrome (NAS/NOWS). A recent analysis has found that the incidence of NAS/NOWS is rising in the United States. There was a greater than five-fold increase in the proportion of babies born with NAS from 2004 to 2014. An estimated 32,000 infants were born with NAS/NOWS — *equivalent to one baby suffering from opioid withdrawal born approximately every 15 minutes.*

Nationally, rates of opioid use disorder at delivery more than quadrupled during 1999–2014, to 6.5 per 1000 births in 2014. In 2014, \$563 million were spent on costs for treatment of NAS/NOWS.

Newborns with NAS/NOWS are more likely than other babies to also have low birthweight, respiratory complications and ear infections. According to Dr. J. Craig Allen Medical Director at Hartford Healthcare “You’ve got tremendous issues in terms of psychological development, cognitive development, social development, if they don’t get the support they need.”

Allen explained that there is little research on the long term effects of children who were born dependent on opioid substances, but that there are some known physical and psychological risks.

“If a child has been exposed to opioids on the physical side there appears to be a greater risk of having ear infections,” Dr. Allen said. He explained further “When a child develops a lot of ear infections early on it can greatly impact your speech development which can impact your social skill development and your engagement with your community.” He recommends parents or guardians of a child who had NAS earlier in life ask their pediatrician for early hearing screenings.

The wide ranging effects of drug and alcohol use during pregnancy are illustrated in a research report involving a 13 month old male infant who was adopted at 3 days old. The adoptive mother explained that the woman who gave birth to him had been taking methamphetamines and opioids as well as consuming alcohol throughout her pregnancy with him.

He had a traumatic birth and was delivered through cesarean section and a vacuum was used for extraction. At birth his blood contained opiates, methamphetamine and other amphetamines. In the hospital after birth he was unable to breathe without the assistance of a C-PAP (continuous positive

The infant reported on in this study had been born to a mother who used opiates, amphetamines and alcohol throughout her pregnancy. He had a traumatic birth, his blood contained opiates and amphetamines, he was unable to breathe without assistance or feed without feeding tubes and weighed only 4 pounds. He was developmentally delayed, had frequent diarrhea and constipation and had chronic ear infections since he was 3-months old He was in and out of the hospital due to respiratory syncytial virus and ear infections. Several different antibiotic nasal sprays did not help him. He was scheduled for ear surgery. Following chiropractic care his symptoms resolved and he went on to become a healthy baby.

airway pressure) machine or feed without feeding tubes. His birth weight was 4 pounds and he was given donor breast milk once he was released from the hospital until he was 3-months of age, from that point he received formula until he was 10-months old. He had a history of a significant fall from a high place and he was developmentally delayed.

When he was brought into the chiropractic office he was suffering from chronic ear infections and had multiple rounds of antibiotics that did not help. The pediatrician wanted to perform surgery to put tubes in his ears.

His mother stated that he experienced ear infections since he was 3-months old and had been in and out of the hospital on several occasions due to respiratory syncytial virus and ear infections. He had taken several different antibiotics and saline nasal sprays for the management of his ear infections. He frequently experienced diarrhea and constipation.

The chiropractor examined him and found ear infection, tight muscles, and structural shifts in his upper neck. Range of motion and other testing

confirmed the findings. These structural shifts can lead to obstruction of the nerves and it is this obstruction, called vertebral subluxations, that chiropractors correct.

Following chiropractic adjustments, he experienced marked improvement in his symptoms. His ear infections cleared, and he was able to avoid having surgery on his ears.

After two years of chiropractic care the patient's mother reported that her child's overall health and wellness improved dramatically and he had to take any more antibiotics or other drugs since he had been under regular chiropractic care.

The study's author called for additional research to investigate the clinical implications of chiropractic in caring for children born addicted to drugs.

Reference::

Chiropractic Care of a Toddler with Otitis Media Born Premature & Exposed Prenatally to Opiates and Amphetamines: A Case Study & Selective Review of Literature
Journal of Pediatric, Maternal & Family Health Chiropractic, Volume 2017. Pamela Stone-McCoy, DC, CACCP & Callerina Natori, DC. Journal of Pediatric, Maternal & Family Health – Chiropractic ~ Volume 2017 ~ Issue 1 ~ Pages 1-7

Dramatic Increases in Maternal Opioid Use and Neonatal Abstinence Syndrome. National Institute on Drug Abuse.
<https://www.drugabuse.gov/related-topics/trends-statistics/infographics/dramatic-increases-in-maternal-opioid-use-neonatal-abstinence-syndrome>



CASE REPORT:

Man Recovers from 50 years of Cocaine & Other Drug Addictions

Chiropractic Part of Recovery Plan

The patient reported on in this study was a 63 year old man with a 50 year history of drug and alcohol abuse and addiction. He had a history of eleven failed traditional addiction treatment programs. His cocaine addiction started at age 21 with previous use of alcohol, cannabis, and amphetamines as early as age ten. He was using cocaine almost daily since the age of 21. He had multiple legal challenges including several felonies, conviction for cocaine possession and violation of probation

He had a number of health challenges including low back pain, emphysema, chronic obstructive pulmonary disease (COPD), high blood pressure, coronary artery disease, gastritis, benign prostate hypertrophy, obesity, venous insufficiency and significant cognitive impairment. He sought medical care often for heart, lung and gastrointestinal complaints. He was taking multiple medications for his various health concerns.

Following chiropractic adjustments, he began to experience marked improvement in his condition including a substantial increase in quality of life ratings and a considerable decrease in his symptoms following a lifetime battling addiction.

He had a history of severe emotional and behavioral conduct problems and experienced chronic depression and anxiety along with serious financial problems.

He entered a residential addiction treatment program and was provided with a full-schedule of reality and relapse prevention groups, coping skills sessions, psychotherapy and individual lifestyle modification sessions. A wellness recovery plan including Alcoholics Anonymous 12 step fellowship program was implemented to monitor uncomfortable and distressing signs and symptoms related to addiction. He attended AA and NA meetings seven days per week.

After approximately five months of their traditional addiction treatment protocol the addiction treatment center performed a specialized brain wave test called a P300 wave analysis. The P300 assesses attention, cognitive function, cognitive awareness, cognitive ability and decision making as well as other aspects affecting the central nervous system and brain.

The testing was done because the patient was not reaching therapy goals and was performing poorly in treatment. The results indicated that traditional addiction treatment was failing to improve cognitive function and or increase the P300 wave amplitude.

At this point chiropractic care was added to the treatment plan for an additional eight months to address any structural spinal shifts that might be obstructing nerve function.

The chiropractor examined him and found structural shifts in his upper neck, mid back, and pelvis. Range of motion and nerve testing confirmed the findings. These structural shifts can lead to obstruction of the nerves and it is this obstruction, called vertebral subluxations, that chiropractors correct.

Following chiropractic adjustments, he began to experience marked improvement in his condition including a substantial increase in quality of life ratings and a considerable decrease in his symptoms.

Following the introduction of chiropractic care he showed considerable improvement in his Addiction Severity Index (ASI) scores. He began to have improvements in depression and anxiety. Family and social problems improved.

Before chiropractic care he had a steady decrease in his P300 brain wave findings - meaning they were getting worse. Following the introduction of chiropractic care to reduce vertebral subluxations he began to show improvement in brain wave function.

The researchers reporting on the case called for more research on how chiropractic can help those suffering from addiction.

Reference:

Subluxation Based Chiropractic Care in the Management of Cocaine Addiction: A Case Report
Annals of Vertebral Subluxation Research, Volume 2012. Jay M. Holder, DC, CAP, DACACD & Brandon E. Shriner, DC, BS. Annals of Vertebral Subluxation Research ~ February 2, 2012 ~ Pages 8-17.



CASE REPORT:

Young Man Gets His Life Back from Addiction

Chiropractic helps him get off drugs and finish college

The young man in this study recovered from opioid addiction, was able to stop all medication usage and his headaches, anxiety, depression, and insomnia resolved following chiropractic care.

This study reported on a 21-year-old young man suffering from opioid addiction, anxiety, depression, insomnia, and cluster headaches. His medical doctors had placed him on four different medications in an attempt to manage his symptoms and withdrawal. The patient had dropped out of college 11 months prior due to the complaints affecting his daily life as well as the destructive coping mechanisms he had adopted.

The chiropractor examined the young man, took x-rays and found structural shifts in his neck, mid back and low back. These structural shifts can lead

to obstruction of the nerves and it is this obstruction, called vertebral subluxations, that chiropractors correct. The x-rays also revealed scoliosis and a loss of the normal curve in his neck. Following chiropractic care to reduce the vertebral subluxations and nerve obstructions this patient recovered from opioid addiction and was able to stop all medication usage. His headaches, anxiety, depression, and insomnia resolved and follow-up x-rays demonstrated improvement in the scoliosis and an improvement of the curve in his neck. He returned to college and completed his degree.

Opioid & Addiction FACTS

- Disorders such as Addiction, Attention Deficit, Tourettes, Autism and others are considered part of the spectrum of reward deficiency syndromes tied to dysfunction of the D2 dopamine receptor.
- Addiction and compulsive disorders are multifactorial, having genetic, psychological, physical and spiritual components.
- When functioning optimally, the human organism is capable of producing a cascade of neurotransmitters within the Central Nervous System which results in a sense of well-being. This is called the Brain Reward Cascade.
- People suffering from the defective gene are unable to produce a reward cascade and are then said to suffer from Reward Deficiency Syndrome (RDS). Those individuals are unable to produce a feeling of well-being and, consequently, turn to addictive substances or compulsive behaviors that momentarily make them feel better.
- RDS can be manifested in mild forms such as chain smoking or in more severe forms such as in chemical addictions. Alcohol addictions, obesity, nicotine addiction, attention deficit/hyperactivity disorder, cocaine addiction, Tourette's Syndrome and post-traumatic stress disorders are centrally mediated Reward Deficiency Syndromes.
- Many things can interfere with the normal function of the Brain Reward Cascade, including, but not limited to: genetic factors; loss of normal neurological function (vertebral subluxations) due to physical, emotional and chemical traumas; illness, nutritional deficiencies; and drug and medication interactions.
- In vertebrates, the vertebral motor units are intimately related with the Brain Reward Cascade by virtue of the nociceptive reflex from vertebral joints to the limbic system where the cascade takes place. Research has shown that the limbic system is not just in the brain, but also extends to the spinal cord - especially the dorsal roots and dorsal horn.

Reference

Resolution of Anxiety, Depression, Insomnia, Scoliosis & Cluster Headaches, in a Patient with Opioid Addiction Undergoing Chiropractic Care to Reduce Subluxations: A Case Study & Review of the Literature. Shawn Labelle, D.C. & Marcus Steiner, D.C. Annals of Vertebral Subluxation Research. October 4, 2017. Pages 176-188

In the largest study of chiropractic care for vertebral subluxation ever conducted Blanks et al. researched nearly 3000 patients from over 150 different chiropractic offices around the world who were under chiropractic care. They reported a high correlation between chiropractic care and improvement in wellness and quality of life. This included physical and mental health and stress. The patients not only felt better, but were also actively taking more steps to improve their lives.

The Prescription Drug Crisis, Pain & Addiction

Just the FACTS

Misuse of prescription opioids, CNS depressants, and stimulants is a serious public health problem in the United States. An estimated 18 million people (more than 6 percent of those aged 12 and older) have misused such medications at least once in the past year. According to results from the 2017 National Survey on Drug Use and Health, an estimated 2 million Americans misused prescription pain relievers for the first time within the past year, which averages to approximately 5,480 new people per day. Additionally, more than one million misused prescription stimulants, 1.5 million misused tranquilizers, and 271,000 misused sedatives for the first time.

The number of prescriptions for some of these medications has increased dramatically since the early 1990s. Moreover, misinformation about the addictive properties of prescription opioids and the perception that prescription drugs are less harmful than illicit drugs are other possible contributors to the problem. Although misuse of prescription drugs affects many Americans, certain populations such as youth and older adults may be at particular risk.

Adolescents and Young Adults

Misuse of prescription drugs is highest among young adults ages 18 to 25, with 14.4 percent reporting non-medical use in the past year. Among youth ages 12 to 17, 4.9 percent reported past-year non medical use of prescription medications.

After alcohol, marijuana, and tobacco, prescription drugs (taken nonmedically) are among the most commonly used drugs by 12th graders. 6 percent of

high school seniors reported past-year nonmedical use of the prescription stimulant Adderall and 2 percent reported misusing the opioid pain reliever Vicodin.

When asked how they obtained prescription stimulants for nonmedical use, around 60 percent of the adolescents and young adults surveyed said they either bought or received the drugs from a friend or relative.

Older Adults

More than 80 percent of older patients (ages 57 to 85 years) use at least one prescription medication on a daily basis, with more than 50 percent taking more than five medications or supplements daily. This can potentially lead to health issues resulting from unintentionally using a prescription medication in a manner other than how it was prescribed, or from intentional nonmedical use. The high rates of multiple (comorbid) chronic illnesses in older populations, age-related changes in drug metabolism, and the potential for drug interactions make medication (and other substance) misuse more dangerous in older people than in younger populations. Among people with a substance problem, nearly 1 in 5 have multiple substance problems. Among people with a substance problem, nearly 1 in 5 have multiple substance disorders for example:

- Nicotine: over 1/5 have another alcohol or drug problem
- Alcohol: nearly 1/3 also have a nicotine or other drug problem
- Illegal drugs: nearly 2/3 have another substance problem
- Prescription drug: nearly 3/4 have another substance problem

Other compulsive behaviors, such as gambling, food and sex are also expressions of addiction. Some research suggests that these types of “behavioral addictions” involve similar changes in the brain, common risk factors and behaviors. They also show common responses to certain types of treatment. These findings suggest that addiction is one disease with different forms or expressions.

Drug overdose deaths continue to increase in the United States. From 1999 to 2017, more than 702,000 people have died from a drug overdose. In 2017, more than 70,000 people died from drug overdoses, making it a leading cause of injury-related death in the United States. Of those deaths, **almost 68% involved a prescription or illicit opioid.**

Misuse of prescription opioids and heroin affects more than 2 million Americans and an estimated 15 million people worldwide each year. The prevalence of opioid misuse and addiction is rapidly increasing.

In 2016, more than 20,000 deaths in the United States were caused by an overdose of prescription opioids, and another 13,000 deaths resulted from heroin overdose. ***Drug overdoses are now the leading cause of death in U.S. adults under age 50, and opioids account for more than half of all drug overdose deaths.***

References

-Association Between Chiropractic Use and Opioid Receipt Among Patients with Spinal Pain: A Systematic Review and Meta-analysis. Corcoran KL, Bastian LA, Gunderson CG, Steffens C, Brackett A, Lisi AJ. Pain Med. 2020 Feb 1;21(2):e139-e145. doi: 10.1093/pm/pnz219.

-What is the scope of prescription drug misuse? National Institute on Drug Abuse.

How Chiropractic Can Help - Just the FACTS

According to current research, people with chronic back and neck pain who receive chiropractic care may be less likely to use opioid painkillers. So groundbreaking is this research that insurance companies, medical organizations and states are now requiring people in pain to seek a chiropractor before resorting to prescription drugs.

Researchers examined data from six studies with a total of more than 62,000 people with spinal pain. Across all of the studies, 11% to 51% of the patients used chiropractic care and people who saw a chiropractor were 64% less likely to use opioids than people who didn't.

Chiropractic care leads to decreased pain, improved range of motion and increased function. If a patient's pain is well controlled by the care they received from a chiropractor, they may need less pain medications or even none at all.

Organizations such as the Veterans Health Administration and the American College of Physicians currently recommend that patients try conservative care by doctors of chiropractic instead of opioids.

The sensation of pain happens through your nervous system and chiropractic is about removing obstructions to the proper functioning of the nervous system and improving connections. These obstructions are caused by shifts in the bones (vertebra) that make up the spine and these shifts obstruct the nervous system and create a disconnect. Because the nervous system controls and coordinates all functions in the body, obstructing or disconnecting it can have an effect on every function of the body - and it often does.

These obstructions are referred to as vertebral subluxations in the scientific literature and adjusting them is how chiropractic helps people stay connected, pain free and healthy.

Our body's ability to adapt to internal and external health challenges and mount a response is the key to overcoming the results of the physical, chemical and emotional stresses that fundamentally cause all human ailments.



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