Back To Chiropractic Continuing Education Seminars

History & Exam – Concussion Symptoms - 4 Hours

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Marcus Strutz, DC
Back To Chiropractic CE Seminars

History & Exam – Concussion Symptoms - 4 Hours
Presented by: Steven C Eggleston, DC, Esq.

Objectives

Participants will be taught the difference between Mild Tramuatic Brain Injury (MTBI) and Traumatic Brain Injury (TBI) and the six different categories of MTBI symptoms. they will learn that 40% to 50% of patients that seek chiropractic care after a car accident have a brain concussion. They will learn to take a proper history so they do not miss the patients' concussion symptoms and how to examine those symptoms using questionnaires from the Centers for Disease Control, the Epworth Hospital in Australia and the Rivermead Head Injury Center in Aberdeen, England.

Hour 1
There will be an in depth analysis of the physical symptoms of concussion/MTBI including headaches, weakness in arms or legs, poor balance, seizures, loss of libido, fatigue, weight gain or loss, hearing problems change in sense of taste or smell, numbness and tingling, blurry vision, high blood pressure and worsening of diabetes.

Hour 2
Analysis of the emotional symptoms of concussion including irritability, sadness/tearfulness, mood swings, nervousness, anxiety, depression, hopeless, helplessness, reduced confidence, apathy and intense fear (PTSD) as they relate to concussion patients.

Hour 3
There will be an in depth analysis of the behavioral and cognitive symptoms of concussion/MTBI including change in exercise patterns, agitation, loss of inhibitions, difficulty concentrating, disorientation, confusion, difficulty speaking, attention deficits, focusing deficits, memory problems, reading comprehension problems, writing problems and difficulty learning, understanding or planning.

Hour 4
There will be an in depth analysis of the social and sleep symptoms of concussion/MTBI including social withdrawal, relationship difficulties, loss of enjoyment of hobbies and sleep disorders. Participants will be taught how to take a history and examine a patient for these symptoms. Forms from the Centers for Disease Control and other international highly respected institutions of concussion research will be supplied to give the participants the tools needed to take a proper history and examine trauma patients who have brain concussions.

A Constellation of Concussion Symptoms

The United States Centers for Disease Control describe all the many and various brain concussion symptoms as a "Constellation of Symptoms." There are almost as many brain concussion symptoms as there are stars in the sky.

In my experience, neuropsychologists are the best doctors to handle a patient with a brain concussion. Generally, neuropsychologists tend to be pretty knowledgeable about performing the proper tests to fully assess a concussion and perform the battery of tests needed to fully evaluate brain concussions. Psychiatrists frequently treat brain concussions, too, but it is not the specialty or license that makes a doctor competent to diagnose a concussion. A licensed doctor can study anything that interests her and become competent in that area. If a neurologist or psychiatrist has a particular interest in brain concussions and enjoys treating those patients, he or she will naturally gravitate toward a brain concussion practice. With that said, neuropsychologists are generally still the best doctors to handle a patient with a brain concussion. Psychiatrists are second best and neurologists, in my opinion, are third best.

There are thousands of chiropractors who have attended my seminars and have been trained to perform the initial screening tests for brain concussions. Since chiropractors are so frequently consulted after a whiplash, chiropractors should be knowledgeable about concussions and competent to recognize them and either refer them out or co-treat them with a neuropsychologist or psychiatrist.

Brain concussion patients are irritable and have anger issues. They have dramatic mood swings and are often not that pleasant to be around. The chiropractor that treats car accident patient or athletes (football, soccer, etc.) absolutely must be competent to handle the concussions that are frequently associated with these types of patients.

If you treat car accident patients or young athletes, your job requires that you understand and know how to diagnose and manage or co-manage ALL of the patient's injuries. You, a treating chiropractor absolutely cannot simply ignore the patient's brain concussion while you treat their subluxations and musculoskeletal injuries. To do that violates California Board Rule 317(w) and you could have your license disciplined.

When you recognize and diagnose a brain concussion in any patient, I strongly recommend counseling the patient and, especially, that patient's family. This is crucial because many concussion patients have seriously impaired memory function and they will likely not follow through on your recommendations. They need a spouse or parent whom you have counseled and instructed in their care who can follow up and make sure they follow your advice.

Nearly every concussion patient I ever diagnosed told me they had been trying to hide how messed up they felt from their spouse, family, and co-workers. The spouse and children need counseling to understand what the patient going through and why they are acting so "weird." They have what I call *secondary damage* from your concussion. Their relationship with you has been severely changed and they do not understand why you are acting so differently from the way you normally interacted with them before the accident. I have seen divorces two or three years later when the spouse gets tired of dealing with a "crazy" spouse who changed very dramatically after a car accident. You need to help the spouse and family understand that their loved one is not actually "crazy" but has a brain concussion and that treatment can help them return to normal. They will breathe a sigh of relief to know why their husband, wife, father, mother or child has been acting so strangely.

Unlimited Variables Make Predicting Concussions Impossible

Every accident is completely different. Even if, hypothetically, you could reproduce exactly the same accident with the same cars and exactly the same impact, there are hundreds of variables for the driver that would influence whether or not a concussion would occur. If one driver had her head turned just five degrees (perhaps looking in the rear view mirror after hearing squealing tires), one driver might sustain a concussion and the other may not. There are many examples where there have been multiple people in the car and each occupant has completely different injuries.

There are so many variables in the forces of the accident as well as the driver's age, sex, height, weight, etc. that predicting an injury is like filling up the Grand Canyon with jelly beans and then guessing how many there are in it. Predicting injuries (or the lack of them) from looking at car damage is not even as accurate as a wild guess. Doing it is so patently unscientific that insurance adjusters should be ashamed of themselves. Doctors diagnose injuries. Your job as a chiropractor is to recognize your patient's injuries (ALL of them) and either treat them or refer out those injuries you do not feel competent to handle. The truth is that brain concussions don't really respond to chiropractic adjustments and that is difficult for some chiropractors to admit because some believe chiropractic can cure anything.

The bottom line is that the patient must be examined and the doctor must test the patient to see if a concussion occurred. Since doctors are the only persons in any state with legal authority to *diagnose* a disease or injury, the proper person to diagnose a brain concussion is a doctor.

Concussions Have NO Relationship To Car Damage

There is no way to predict whether a brain concussion occurred by looking at the damage to the car. The speed of the cars, the direction of the impact, etc. cannot possibly predict whether a concussion occurred because there are literally thousands of variables and they are far too extensive for anybody to be able to consider all of them and make some kind of formula that can predict this very complex neurological injury.

The patient's only chance to find out whether they have a brain concussion is by consulting an educated, experienced, and unbiased doctor. Don't disappoint them or let them down. They trust you and you must be competent. You should perform the standard and well-accepted scientific tests to determine whether or not your patient has injured their brain.

The testimony of the *hired gun* from the insurance company should be looked upon as coming from someone who has sold their testimony for money. Unfortunately, the doctors who are paid to testify for the insurance company say what the insurance company wants them to say. The insurance company wants them to say the patient is not injured so it doesn't have to pay any money. They will say unscientific things like, "This patient did not have a concussion because his head did not hit anything during the accident." That may fool the ignorant and uneducated

who, unfortunately, often wind up on juries since the insurance company tries very hard to keep anyone with a medical, nursing or scientific education off the jury.

The doctor for the insurance company may also say things like, "This patient could not have had a concussion since there was only $900 damage to his car." This is also unscientific nonsense designed to fool jurors into not giving you any compensation for your injuries. I am more outraged that these doctors lie for money than I am that insurance company executives lie for money. The doctor has taken an oath to "do no harm" so it is a direct violation of that doctor's oath to lie for money.

Although we all know scientifically that concussions are caused by the brain hitting the inside of the calvarium when the head is shaken, I STRONGLY urge you to document whether or what your patient's head struck after the impact. Words like, "The patient's car was rear-ended, his head went back and struck the head rest" help the PI attorney a lot. "The patient's car was struck from the front and her head struck the air bag (or the steering wheel)" also works well. "The patient's car was struck from the side, his head went side to side and he struck his head on the driver (or passenger) window" can also be helpful. Obviously, don't make up something that did not happen. In my experience, however, one of these three things happens in about 99% of car accidents.

Obviously, you would make a similar statement in your records for a sport injury. "The patient was wearing a football helmet when his head struck another player's helmet and he got a brain concussion." "The patient was head-butting a soccer ball and got a concussion." These are the "facts" that lawyers depend upon and it is up to you to ask the patient what happened and use their descriptions (or your understanding of physics) to explain what the patient's head struck after the impact. This one simple statement completely undercuts one of the most commonly used lies of the insurance companies.

You are frequently the FIRST doctor that the patient sees after a car accident. You MUST include concussion questions in your consultation. I have included a Symptoms questionnaire with these notes that you may use. The entire right side has concussion and PTSD symptoms so when the patient marks a number of those boxes on the right, that will trigger you to get out the ACE, Rivermead and Epworth to have them fill those out, too.

I have also included follow-up questionnaires you may use for your monthly re-exams. The Rivermead and my outcome assessment forms are designed to be used after three months and every three months until the patient's concussion has healed. Some concussions heal in a few weeks or months but many last years or decades. Be a good doctor and take good care of your patient by diagnosing and co-treating their most damaging injury (the one that will change their life the most.)

MTBI v. TBI – What is the Difference?

Why don't doctors use fewer and simpler words like Traumatic Brain Injury? They do but it means something else. Traumatic Brain Injury (TBI) means there was some kind of intrusion injury of the head in combination with the brain injury that results. For example, a skull fracture

that crushes part of the brain is called TBI by your doctor. Anything short of a skull crushed by a hammer or a bullet that traveled through your brain is called *Mild*.

There is nothing mild about the symptoms of a Mild Traumatic Brain Injury. Mild simply means your skull was not broken or crushed. MBTI is a severe, debilitating brain injury. Many doctors use TBI to describe a brain concussion that that is not correct use of the word.

Symptoms of MTBI

What happens to your brain after an MTBI/concussion? In the words of the U.S. Government's Centers for Disease Control (CDC), MTBI causes a *constellation* of physical, emotional, behavioral, cognitive, and social symptoms. A constellation also refers to the stars in the sky that form a pattern that looks like something we know. I believe the CDC's use of the word constellation is the most accurate and poetic description of MTBI that I have ever heard or read. The sheer number of possible concussion symptoms is as numerous as the stars in the sky.

Six Categories of MTBI Symptoms

There are numerous systems that have been created over the past one hundred fifty years to describe and categorize this constellation of systems. The knowledge and understanding of brain concussions has evolved as doctors have made new discoveries and science has advanced in its ability to test the brain. A new system to explain the various symptoms has been published and adopted each time a significant leap forward has occurred.

As usual, each time a new system is created it is adopted and used by some doctors while other doctors continue to use the older system. New scientific papers are published every year as doctors continue to understand, explain, and treat the victims of brain injury.

My system is based on function and can be used to organize the six categories of MTBI symptoms. It was derived from the research available today. I adapted it from all the various systems and put all the symptoms in a system of categories that takes the point of view of the concussion victim. These are the symptoms you may be feeling. This is how your brain injury may be affecting your life. The six categories of concussion symptoms are:

- Physical
- Emotional
- Behavioral
- Cognitive
- Social
- Sleep

Physical Symptoms of Concussion

- Headaches
- Weakness in the arms or legs

- Poor Balance
- Seizures
- Loss of libido
- Fatigue
- Weight gain or loss
- Hearing problems
- Change in sense of taste or smell
- Numbness or tingling
- Blurry vision
- High blood pressure
- Worsening of diabetes

Headache: Almost everybody has had a headache at some time in their life. There are many, many causes of headaches. One of them is brain concussion. Another very common one is chiropractic subluxation of the first or second vertebra in the neck. Others include spasms of various muscles around the head and neck such as the temporalis, splenius capitus, splenius cervicis, frontalis, masseter, pterygoid, or perhaps some of the other 103 muscles in your head and neck. Headaches can even be caused by brain tumors, strokes, and subdural hematomas. Holy cow, this is complicated! How does the patient know if their headaches are from a brain concussion, a subluxation or something else?

They come to you, the doctor. It is your job to be smart enough to figure out exactly what is causing your patient's headaches. If you have adjusted the patient three or four times and their headaches are not getting any relief, recognize that subluxation is NOT the cause of the patient's headaches. Figure out what it is OR refer the patient to somebody smarter if you cannot figure it out. Failure to refer violates California Board's Rule 317(w) and incompetence violates Rule 317(c). These rules govern YOU and your actions in California and the Board can take away your license for ignoring your patient's real injury. This is especially true when the patient is not really responding to your treatment and their symptoms are staying the same or getting worse month after month. The worst evidence against you at a Board hearing or during a malpractice trial is that you kept treating the patient even though he/she was not improving under your care.

Actress Natasha Richardson suffered a concussion in a very minor fall on a bunny slope at a ski resort. She got up and appeared to be fine for a period of time. Nobody fully appreciated that, not only did she have a concussion, she also had broken a blood vessel in her brain that began to bleed into her brain. I'm sure she had a headache but nothing seemed urgent at the time because she appeared to be OK. Unfortunately, by the time doctors figured out that her headache was from bleeding into her brain it was too late to save her life.

Headaches are very common. The causes of headaches would occupy a hundred pages in this text to enumerate and explain them all. Millions of Americans take over-the-counter pain pills every single day to stop headaches. Despite the rather flippant attitude toward headaches by many Americans and the companies that manufacture the drugs they take, headaches are a very, very complicated medical condition that doctors should not take lightly.

If the patient's headaches started (or worsened in severity or frequency) after a car accident, you, the doctor, may order tests such as MRI or CT to determine that your headaches are not caused by subdural hematoma or any other type of bleeding into your brain. Other tests may be performed and various treatments may be tried to stop your headaches. If your headaches do not stop even after all these tests and treatments and you have other concussion symptoms, your doctor may eventually come to the conclusion that your headaches are from your brain concussion. That is the process of elimination. Doctors use it all the time to figure out what is wrong with the patient. They use their education and knowledge to ask the patient questions that lead them to believe what is the most likely cause of the headaches or other symptoms. They order tests to confirm or eliminate their theories. When tests confirm the doctor's theory, a definitive diagnosis is made. When tests do not confirm the cause of the patient's headaches, the doctor may try various treatments. When the patient responds favorably to any particular treatment, this process of elimination has given the doctor new information that helped him/her to arrive at the correct and final diagnosis.

Weakness in Arms or Legs: Your brain controls everything in your body. There are many possible causes of arm and leg weakness. Your brain (central nervous system) may be the cause because shaking your brain caused Mild Traumatic Brain Injury. The questionnaires supplied allow you to ask the patient many questions to figure out if the patient's arm or leg weakness is caused by a concussion or perhaps a peripheral nerve injury.

Your patient may be experiencing weakness in their arm or leg after a car accident. Don't think that weakness means the patient cannot bench press 200 pounds. Weakness can occur in any of the forty-six muscles in your arm. Each of these muscles has a separate nerve that connects it to the brain. The patient may only have weakness in a few of the nearly four dozen muscles in each arm and that is called "subtle motor weakness." The weakness may not be noticed because it is only affecting a few muscles (perhaps some of the smaller muscles.) The patient may not even perceive it as weakness. The most common description of subtle motor weakness is "clumsy." Ask your patient if either hand has felt clumsy since the injury or if they are dropping things. There may be simply a lack of dexterity in your fingers. These are all signs of upper extremity weakness.

Patients often describe this as a vague or odd sensation in their arm, hand, leg, or foot. "It just feels different, like it is not my hand" is a common description. The patient may describe difficulty opening jars, clumsiness in either hand, difficulty writing with a pencil, or stumbling when they walk. Many of my patients told me they had been running into furniture, door jambs, or walls. The patient may have experienced this symptom of subtle weakness in some of their arm or leg muscles and not recognized that it is a symptom of your brain concussion. They may have bruises on their arms or legs from bumping into things and not realized why this has been happening since the car accident.

Ask your patient whether they have been experiencing anything *weird* since the accident. Your job as a doctor is to ask the question and then figure it out.

Poor Balance: Poor balance can be caused by quite a few different things after a whiplash. The inner ear is the primary balance mechanism in your body. They doctor may recognize

Vestibular damage from the symptoms the patient reports, the doctor's examination, and the tests that are performed. A secondary balance system in the body is located in the upper vertebra of your neck. Damage to the upper neck ligaments may cause vertigo, dizziness, and many other balance problems. The brain stem is a secondary center of balance in the body and we all know that the foramen magnum can damage the brain stem during whiplash. Another reason for poor balance after a whiplash is because of what I just talked about which is some weaknesses in the patient's leg muscles. When small leg muscles are weak from a concussion, the may stumble and bump into things.

When the patient tells you they have been dizzy, lightheaded, the room is spinning, they are spinning, or are bumping into things since the accident, you should conduct a thorough consultation with you, examine each of these four major causes, and figure out why these patients are having these symptoms after a whiplash.

Seizures: Seizure is a very general medical term that is used to describe quite a few different symptoms of brain dysfunction. You may think of a seizure and envision a grand mal epileptic seizure where the person falls on the floor and flops around wildly. There are many, many other types of brain seizures that are far less dramatic.

Concussion patients may be functioning perfectly fine and suddenly their facial expressions go flat and they stare into space for several minutes. Others may experience episodes of shuffling of feet or sudden loss of balance. This very complicated neurological condition should be fully evaluated by both a neuropsychologist and a neurosurgeon. Ask the patient about any strange or unusual symptoms since the accident and let the doctor decide whether these are some manifestation of a seizure disorder in your brain.

I had a client who started having grand mal seizures after a car accident. She was taken to the E.R. 46 times in the first year after the car accident because of a grand mal seizure.

Loss of Libido: Nobody wants to discuss their failings in the bedroom so many patients will not offer up the fact that they just don't feel like *it* anymore. Libido means sexual *drive*. Brain concussions can cause damage to the area of your brain that controls your sexual desire and cause a loss in this very private thing that nobody wants to talk about. The spouse knows it and may be wondering what happened. When this symptom occurs in conjunction with other concussion symptoms like irritability and mood swings, both the patient and his/her spouse may be feeling a severe strain on the relationship.

Studies have proven that 80% of concussion patients will have low testosterone levels within one year of the concussion. Low testosterone can be responsible for that so if you are correctly handing your patient's injuries and have asked about loss of libido, a referral to an endocrinologist to have their free testosterone checked by laboratory testing is the proper course of action.

Not only does low testosterone cause loss of libido, testosterone is one of the major hormones in the human body that is responsible for the repair and regeneration of tissue. Your patients will not heal fast, not heal properly or may not ever heal at all if they have low testosterone from a

brain concussion. We have all had patients that take longer to heal. Now you know why. Pay attention to this very important hormone in your trauma patients.

On the other hand, the patient's libido may be way down because they have so many aches and pains that sexual activity is too physically demanding. The spouse may understand this to be the case in the first month or two, but what if the libido never returns? Months go by and they still don't feel like it even though they are physically feeling much better. Be sure to talk to your patients and see if this is one of their concussion symptoms. Couples counseling is also important if they are in a long term relationship or marriage.

Fatigue: There are many causes of excessive fatigue after a whiplash injury. Concussions affect the ability to sleep. If the patient is not sleeping well, it seems quite logical that the patient would be tired during the day. Concussions can also affect the body's ability to use glucose in their brain cells. Glucose makes energy so the patient may feel tired all the time if their brain is not metabolizing glucose properly after the MTBI. The patient may be sleeping more than normal because of this lack of cell energy. It is ironic that a concussion can make the patient sleep less than normal or more than normal. Either of these symptoms can be traced to the concussion. Information is one of the most important things you need as a doctor to figure out how your concussion is affecting your patient's brain. Ask your patient about their sleeping patterns, energy level, and whether they have been dozing during the day.

Dozing is not simply feeling tired or sleepy. Dozing is not being asleep. Dozing is when your head nods in church during a sermon that is just a little too long. Dozing during the day is one of the most common symptoms of sleep disorder after a concussion. While it is normal to doze occasionally in church during a long, boring sermon, you should ask your patient if they are dozing more often in situations like sitting in a movie theater, talking in a group of people, riding in a car, sitting at your desk at work, or even waiting at a red light while driving a car.

Understand that there are two major reasons for daytime fatigue. The patient may be tired during the day after a whiplash simply because they are not sleeping well because of their neck pain. The second reason is that they may have an injury in the area of your brain that controls sleep. It is a very fine distinction between sleeping less because of pain and sleeping less because of a concussion. You need detailed information about your patient's sleep patterns as well as pain levels in order to make the correct diagnosis.

A concussion may manifest as sleeping ten or twelve hours a night and, yet, the patient is still very tired during the day. Ask your patient how many hours they sleep every night and how often they doze during the day so he or she will have all the information needed to assess you correctly. The Epworth Sleep Questionnaire is the most respected questionnaire in the world for this purpose. Have the patient fill it out and get some information.

Weight Gain or Loss: MTBIs can affect the area of your brain that controls appetite. Ironically, a concussion can increase or decrease your appetite. When a patient has a concussion and feels emotionally and mentally "weird", they can use food to comfort themselves. There are other considerations for you to take into account. The patient may not be exercising regularly because of their physical injuries after the accident. No exercise with a normal appetite can still

make you gain weight. On the other hand, the patient may also have injured the area of their brain that controls taste and smell so food tastes bland or different. The patient may not be eating much because food no longer tastes good.

Hearing Problems: Brain concussions can affect areas of your brain where the sounds you hear are analyzed. Two of the most common hearing symptoms include hearing *loss* and *ringing* in the ears. The patient may notice that you are not hearing as well in one ear while the other ear is normal. Tones may sound *flat* to you because you are not hearing all the tones. When the high and low tones (treble and bass) are not heard, voices and music sound flat and uninteresting. Ringing in the ears is also commonly reported by whiplash patients. This can sound like humming, buzzing, or high pitched tones.

The most severe hearing problem following a concussion causes the patient to not understand what other people are saying even though they hear everything just as loudly or normally as before the concussion. The patient frequently says, "Sorry, what did you say?" They then look at the speaker, focus on them and listen carefully. Only then do they comprehend the meanings of the words.

There are three symptoms of concussion that, when found together, indicate a poor concussion prognosis and long term post-concussion syndrome. These are: (1) hearing problems; (2) anxiety; and (3) trouble thinking. Of all the concussion symptoms, when these three are present, you need to really be concerned about your patient and make a referral to a neuropsychologist.

Change in Taste or Smell: The patient may not think their taste or smell has been affected until you ask him/her whether they may have stopped drinking coffee because it tasted funny. A patient of mine once described coffee as having a "copper" taste since his car accident. I have never been able to figure out how he knew what copper tasted like but you can see how strangely a brain concussion can alter your senses. The patient may have subconsciously stopped eating their favorite foods without recognizing that it was because it did not taste good anymore. The senses of taste and smell are very closely related because they are located close to each other in the brain. A surprising amount of the sense of taste is really you smelling the food as it is put into your mouth.

The nerves passing through the cribriform plate may be damaged during a whiplash. The brain stem may be damaged during a whiplash. If you want to see some abnormal cranial nerves, figure out which patients have brain concussions and test their cranial nerves. You will see some abnormal cranial nerves on those patients quite often.

The may have noticed that someone's perfume is annoying after a whiplash. Certain things may smell more intense or the may not be able to smell things at all. Test the concussion patient's senses of taste and smell.

Altered Sensation: May doctors misinterpret altered sensation test results. Ask the patient how OFTEN they feel numbness or tingling, not just where. OCCASIONAL numbness in an extremity is rarely caused by a disk herniation but most doctors order an MRI when the patient

complains of altered sensation in their extremities. Then the MRI is "negative" or has very small disk herniation that really don't explain why the patient's fingers or toes are tinging.

The GOLDEN RULE of altered sensation is that CONSTANT numbness is usually a disk herniation and INTERMITTENT numbness is usually a torn ligament in the spine.

Constant numbness or tingling is best explained when a space occupying lesion is present. Disk herniations protrude into the IVF and press on the nerve root constantly. An MRI will show the disk protrusion or extrusion and you will have found the correct diagnosis.

Intermittent numbness or tingling is caused by torn spine ligaments most of the time. The patient (when carefully questioned) will report that their fingers tingle "3 or 4 times a day for about 30 seconds" or "5 or 6 times a day for about a minute." This is the same description as hitting your "funny bone." What is really happening is that there is one or more ligaments in the spine that are partially torn. That causes true hypermobility of the vertebral segment which can be seen on flexion and/or extension lateral X-ray films as stair-stepping on George's line.

Frequently it is the Posterior Longitudinal Ligament (PLL) or Anterior Longitudinal Ligament (ALL) that is torn and when the patient turns his/her head in a certain direction, the vertebra slides backward and strikes the nerve root. This is like hitting the ulnar nerve in the elbow only it is really hitting the vertebral nerve root at its base when traversing the IVF. Stress X-rays will show the aberrant movements of the vertebra and that explains INTERMITTENT numbness. Take my online course titled, "Diagnosing Whiplash" for an in depth explanations, diagrams and x-rays can teach you how to do this analysis.

Finally, a concussed brain can cause all kinds of "weird" altered sensations in a patient. I personally had numbness in the entire left side of my body for 8 months after a car accident in 2012. My face, torso, arm and leg were all partially numb and tingling and it did not go away for 8 solid months.

Blurry Vision: Many patients do not tell their doctor that their vision changed suddenly after the accident because they do not recognize that it started right after the car accident. I ask my clients, "Have you been to the optometrist since the accident to have your prescription changed?" Most optometrists do not ask whether you have been in an accident and the connection between sudden blurry vision and a concussion is frequently missed.

Blurry vision from a concussion is real so ask your patients about it and refer them to an optometrist. A "behavioral" optometrist has special training in treating concussion patients. As the patient's concussion improves, their vision improves so they may need new glasses very three to six months until their concussion has healed completely.

H**igh Blood Pressure**: This can occur in people who have never had high blood pressure in their entire life. It is a routine procedure in all doctor offices to test blood pressure. You should be certain to check all trauma patients for hypertension and refer them to an internist. Instruct them to tell the internist that the hypertension started after the car accident. If the patient suddenly has high blood pressure after a car accident, he/she may need medication or other treatment to

manage their blood pressure for a few months. If the patient already had high blood pressure before an accident, their blood pressure can get out of control despite taking their normal medications. Make sure you test your trauma patients for concussions and when you find one, check their blood pressure regularly.

Worsening of Diabetes: The hormones that control blood sugar can go haywire after a car accident. Many diabetics need special attention to their medications and must alter their insulin following a car accident. Some borderline diabetics (before the car accident) may find themselves suddenly being diagnosed with full blown diabetes. Make sure to refer your concussion patients with diabetes or borderline diabetes to their medical doctor for help managing their diabetes after a brain concussion. The link between diabetes and the concussion is very often missed because endocrinologists and internists that typically treat diabetics rarely are involved with trauma patients and fail to make the connection between the accident and the sudden worsening of diabetic blood chemistry.

Emotional Symptoms of Concussion

- Irritability
- Sadness or tearfulness
- Mood swings
- Nervousness
- Anxiety
- Depression
- Hopelessness
- Helplessness
- Reduced confidence
- Apathy
- Intense fear

Irritability: Ask your patient's spouse, children, friends, or co-workers the following question, "Has he been more irritable since the car accident?" Irritable means that the patient becomes annoyed or angry much easier than they did before the accident. They are bothered by things that used to just roll off their back. They become more confrontational and fly off the handle with their friends and family. Talk to your patients and get them some counseling to help them (and their families) cope with this change in personality.

Sadness or Tearfulness: Patients become highly emotional after a concussion and report that the least little thing makes them cry since the accident. Men may find themselves uncharacteristically crying at a movie. This is not unmanly. It is merely a symptom of the MTBI. The patient's emotions may feel like a flood washing over them in a way they have never experienced. Advise the patient to tell their friends and family what is going on and they will understand when tears suddenly well up in the patient's eyes.

I cried for hours every day for several months after my accident in 2012. I cried in front of the bank teller, the Apple store "genius" and my CPA. These were not just a few tears. These were full blown weeping episodes during which I could not compose myself enough to even speak.

Notice those patients that start to tear up when they are talking about their injuries during the consultation. Test them for concussions. Invite them to bring in their spouse, family or friends so you can counsel those people that your patient is not "crazy" but has a concussion.

Mood Swings: Swing means to go back and forth. You had happy and angry moments before the accident but you (or those around you) may notice that you started having huge, sudden, and dramatic swings from happy to angry after a brain concussion. Parents with concussions suddenly have no patience with their children and yell at them or hit them. They are embarrassed by their own actions and, since they are often alone with the children, nobody else sees it. The children are afraid to say anything and the spouse never sees it (although the spouse may also be the victim of it.) It is potentially dangerous to children and you should question your patient and their family about it. You are a mandated reporter for child abuse in California and you need to help get your patient some counseling and even make a referral to someone who may need to prescribe medication to calm down the patient.

Taking medication to control anger is much better for the patient than a criminal conviction for child abuse, spousal abuse or a divorce.

I always told my concussion patients to "Go home and tell your family that you have a brain concussion and that is why you have been acting weird lately." In nearly every case, the patient told me at their next appointment how relieved their family was to know that "mommy wasn't crazy" and that there was a medical explanation for what the family had been experiencing at the hands of you my patient.

Nervousness: Patients report nervousness after a concussion (especially when driving.) You need to ask your patients the following questions. Do your palms sweat when you drive near the scene of the accident? Does your heart beat faster when you drive near the intersection where the accident occurred? Have you compensated by driving a different route to work every day? Do you worry that your friends and family will think less of you now that you are not performing at your best? Another word for nervousness is stress. Do these things stress you out since the accident?

Anxiety: Anxiety is a medical diagnosis that could be described as "severe nervousness." Patients become very anxious about their ability to earn a living because they are not functioning well at work and fear getting fired. They hide their concussion symptoms from their employer (especially the cognitive ones) so they don't lose their job. It is bad enough that the patient is injured physically and that their brain is not working properly, but losing their job and not being able to pay their bills would make things much worse. Fear of losing their job can cause significant anxiety.

Counseling is probably the best treatment for post-accident anxiety. EMDR is an excellent treatment that I used to overcome anxiety when I was driving. Many people do not like to take

prescription medications but a short course of anti-anxiety medications may help you to cope until their brain begins to function normally again. The changes in their brains are chemical so this is one example where a chemical solution (medicine) might be a good course of action. There are also many natural herbs and vitamins that can help reduce anxiety that you can offer to the patient with a concussion. You cannot provide any treatment if you don't recognize the debilitating concussion injury and it is the patient who you have let down that suffers the most.

Depression: 27% of concussion patients will have a "major depressive episode" following a concussion. Many patients who were never depressed in their life may confess that they have been very depressed after a concussion. People with a history of depression are likely to have depression come back or worsen after an accident. People who have been off depression medication for many years may find themselves unable to cope once again after an accident that caused a brain concussion. A new course of medication or alteration of depression medications may be necessary after a concussion.

Most depressed people don't actually feel "depressed." They lose interest in their hobbies, have a hard time getting out of bed and just cannot seem to handle the stresses of life. The questionnaires supplied with this course help you find out which of your patients have concussions and which have depression. Remember that 40-50% of car accident patients have concussions and 27% of those end up with a major depressive episode. So ¼ of ½ of your car accident patients have clinical depression. That is approximately one out of every ten patients that walks into a chiropractic office after a car accident will have a major depressive episode. If you are not diagnosing depression about 10% of the time in your car accident patients, you are doing your patients a GREAT disservice because if they cannot trust you to help them, who can they trust?

Hopelessness: Patients often report feelings of hopelessness. Brain concussions cause this "constellation" of many, many symptoms that can be overwhelming and they lose hope of ever being normal again. Feelings of hopelessness occur when everything is going wrong after an accident. They have physical pain and their brain is not working well enough to figure out what to do. You need to make an accurate diagnosis and get your patient the proper treatment before they spiral down so far that suicide becomes an option. Who do you think is committing suicide in this world? I postulate that it is frequently people who had brain concussions playing sports or in car accident whose doctors never diagnosed the concussion.

The movie Concussion starred Will Smith as a medical examiner in Pittsburg. After 4 former Pittsburgh Steelers in their 40s committed suicide, he went public with data that proved that concussions cause brain damage that can lead to suicide. The NFL fought him (as you can imagine) but his work has made changes for NFL policies that help protect football players.

Helplessness: There are many things the patient cannot do after a concussion no matter how hard they try. They have mental limitations as well as the physical injuries from the car accident so they may feel helpless. Their thinking processes are slowed and they are not nearly as productive as before. ADVISE your patient to resign from all activities that are not absolutely essential. Resign from the charity they help, quit coaching their child's baseball or soccer team,

quit the church choir and resign from teaching Sunday School. THIS IS REALLY IMPORTANT.

Your concussion patients may be able to function for a few months but they will soon become so overwhelmed that they just shut down altogether. In the old days they called this a nervous breakdown. Advise your concussion patients that this is a good time to ask friends and family members for help with everyday activities.

It is difficult for the concussion patient to ask for help because they are functioning very poorly. You need to counsel the family. Tell the husband that he has to step up and do the shopping and care for the children. Advise the older children of your patient that "Mommie has a concussion so you need to cook for the family and clean the house for the next year or two." It is ESSENTIAL that the concussed patient STOP any and all responsibilities they possibly can.

If the patient has a job and earns the living for him/herself or the family, make them quit EVERYTHING except their job. They will need all of their mental and emotional energy just to not get fired from their job. If they do not resign from every non-essential activity, they will soon feel helpless, desperate and depressed. They are not functioning well enough to even ask for help so you have to do it for them. You are a doctor so step up and be a "holistic" doctor who helps the "whole" patients.

Reduced Confidence: Your confidence is closely related to your self-esteem. Concussion patients know they are not functioning properly and they often fear that others will *find out* how messed up they are. If you have had a concussion, you are probably trying to hide it from your friends and family. Concussion patients are hoping to get back to normal before everybody finds out.

The reality is that these patients are not hiding it as well as they *think* you are. My advice is to tell their family and friends that something is wrong with their loved one. Counsel the patient AND the patient's family. There are billing codes for this purpose so you can get paid for the time you spend doing this. Once it is all out in the open, the patient's confidence will get a small boost and, as helps treatment helps them get better, their confidence will improve steadily. I am of the opinion that low confidence or self-esteem can be caused by a belief that they are hiding things from others and they are afraid everybody will find out. This is never truer than with concussion patients. Advise your concussion patients to be honest with their family and friends. Just telling them will make the feel better and will boost his/her confidence. Telling the friends and family with also help them stop wondering if their relative or friend is "crazy."

Apathy: There are things a concussion patient knows in his/her mind he/she *should* care about, but they cannot force themselves to actually care about them anymore. Apathy is an "I don't care" attitude that is very common in concussion patients. MBTI can affect so many areas of the patient's life that they may become overwhelmed. When so many things go wrong at once, they may be unable to deal with it all on their own. When they get overwhelmed and their ability to organize their lives life is impaired, they may find themselves accomplishing very little or nothing at all. If they just don't know where to start, they may stop caring about getting

anything done. These patients need professional help so it is your job to either provide it to them or refer them to someone who can help.

Apathy in a concussion patient causes the attitude, "I have bigger fish to fry." The patient is so consumed with their physical injuries AND mental/emotional disabilities after the accident that everything else seems less important. For example, if there was a major earthquake in California and we no longer had electricity, gas or water service to our homes for a month, we would all have more important things to worry about than going to work. This is what it feels like to a concussion patient. Things that used to be important are suddenly less important because they feel so terrible and non-functioning. Help them doctor.

Intense Fear: The U.S. government's National Institutes of Mental Health states that car accidents are a common cause of Post-Traumatic Stress Disorder (PTSD.) This diagnosis is not just for soldiers returning from war. Sudden intense fear or nightmares are frequently seen in people who have been in car accidents. Nightmares may not occur every night and the fears and sudden anxiety associated with PTSD may only be occurring occasionally (such as when you are in a car or when you drive near the intersection where the accident occurred.) Take my online course titled, "Diagnosing PTSD" for more information about diagnosing and treating PTSD.

Behavioral Symptoms of Concussion

- Change in exercise patterns
- Agitation
- Loss of inhibitions

Exercise: Exercise is directly related to mood and vice versa. Many patients who are injured stop exercising. Even after their physical symptoms improve, depression from the concussion may continue to keep them from resuming their normal exercise patterns. Counsel the patient to begin a new and different exercise program that is compatible with their physical injuries. Walking helps a lot if that is all they can do. This is a form of exercise that lifts the patient's mood and helps them recover from the depression associated with concussion.

Agitation: Agitated people cannot sit still. They cannot relax. They feel like they must be moving all the time. Some of this is attributable to the physical pain from musculoskeletal injuries since movement may help relieve pain. Mild Traumatic Brain Injuries may affect certain areas of your brain as well as cause chemical changes in the brain and nerves that induce calmness.

Agitation also means to excite and trouble the mind with feelings. Your mind can be agitated as well as the body. The patient's mind cannot calm down and they end up with strange and new feelings you may have never experienced. I hope you are getting the message how messed up these concussion patients feel so you can begin to help them

Loss of Inhibitions: An often unreported symptom is loss of inhibitions. The brain's chemistry normally "inhibits" some behaviors that are socially unacceptable. Patients have reported loss of inhibition regarding spending money and many other social morays. A concussion victim

may have been very thrifty and responsible with money before the accident only to find him/herself suddenly spending money like a drunken sailor and getting into serious debt. They may lose control of normal societal inhibitions in a wide variety of social behaviors that they would never have done before the concussion.

Cognitive Symptoms of Concussion

- Difficulty concentrating
- Disorientation to time or place
- Confusion
- Difficulty speaking
- Cannot pay attention very long
- Difficulty focusing/easily distracted
- Memory problems
- Reading comprehension problems
- Writing problems
- Difficulty learning new things
- Difficulty understanding things
- Difficulty planning or organizing

Difficulty Concentrating: This is one of the three ominous signs for a poor concussion prognosis and long term postconcussion syndrome. It is one of the most common symptoms of brain concussion. They suddenly have to *force* themselves to think, a process they did prior to the accident without effort. People with MTBI have to think about the process of thinking and this causes tremendous difficulty in performing many things in their daily life. They cannot concentrate for as long as they used to.

For example, they used to work eight hours a day at their job and get a lot done. Now they "work" eight hours and get half as much done. The work they get done may have a lot of errors. It can take them twice as long (or even longer) to finish the same quantity of work. Not only that, they have to force themselves to concentrate because their mind wanders. They read a page and do not comprehend what they just read. The quality of their work suffers. They accomplish less and do a poor job on the work they do complete. It is no wonder that they have tried to hide this from their boss.

Disorientation to Time or Place: We have all walked into a room and thought, "Why did I come in here?" After a concussion, this becomes a frequent occurrence and it can be much worse. You miss the turn you were supposed to take while driving. You get lost on your way to your mother's house for Thanksgiving dinner. Disorientation to a place means that you get lost easily when you are walking around Disneyland or driving around your neighborhood. Disorientation to time means that you have lapses of time which you cannot account for.

After my accident and concussion in 2012, I was at a board of directors meeting at a large resort with another chiropractor I know well. He told me that I called him and said, "I can't find my room. Can you come find me and help me?" I had to describe the buildings I could see and

read him the signs so he could locate me. He came and found me and took me back to my room. I don't remember this at all. In fact, there is about a year and a half of my life that I don't remember. Some car accident patients are always late for their appointments or miss them altogether. Ask these patient if they are getting lost, making wrong turns or having memory problems.

Confusion: You get confused easily about events going on around you after a concussion. It is easy to become confused when you cannot focus and concentrate. You become easily confused during the periods when your mind cannot fully concentrate. Ask your paitients, "Do you get confused easily."

Difficulty Speaking: Many concussion patients have reported to me that they can't seem to find the words when speaking. This is called "Word Finding Problems" in concussion lingo. While this happens once in a while, it can happen frequently in some concussion patients. They can speak words and most of the time other people think they are speaking normally. Other people are unaware that your mind is racing to find the words in order to keep up with the conversation. Before the accident, you simply talked to your friends. After the accident, you have to think about talking. The person suffering this symptom has the same mental difficulty as someone who is speaking a foreign language. The mind is constantly racing to translate the words from English into Spanish and then speak the Spanish words. Once you become fluent in Spanish you no longer have to translate the words in your mind before thinking them because you learn to think in the foreign language. Likewise, a brain concussion can make you have to think about the meanings of words before you can speak them. This may slow down or cause brief lapses in your speech. You may need to become fluent in your own language again. It is something you have not had to do since you were very young but you may have to learn to do it again because of your accident and brain concussion.

Word find problems can linger for months or years after the concussion. It does slowly get better over time (and with the proper treatment) but it can be very frustrating to the patient. They cannot remember simple words like pen or keys so they have to stop mid-sentence and struggle finding a simple word that any eight-year-old would know.

Attention Problems: Another cognitive symptom is that your brain cannot function well enough to pay attention for normal periods of time. Your mind wanders easily. You cannot focus on projects that you are working on. Since your brain's ability to think is damaged, your ability to focus your brain is seriously damaged. Think of attention problems as related to how long you can focus your mind. The amount of time you can pay attention after a concussion may be shorter (much shorter) than before the accident. The questionnaires supplied with this course will help you ferret out these symptoms and you will discover just how difficult your concussion patient's lives have become.

Difficulty Focusing/Easily Distracted: Think of difficulty focusing in this way. It requires effort for you to focus your mind for even short periods of time. It is a close cousin to your attention problems. Since it takes great effort to focus, you can become mentally exhausted just from the process of thinking. Your mind wanders because you cannot expend that much effort

all the time. The result of this symptom is that you are less productive and cannot perform the same quality or quantity of work. This is part of the category of symptoms called *cognitive* dysfunction. 10% of your car accident patients have concussions and you need to help them.

Memory Problems: Short term memory is affected by a brain concussion/MTBI. When I asked patients if they were having memory problems, they often said, "No." However, when I asked them, "Have you forgotten your PIN number at the ATM or your email password?" they would admit that they were having this problem. After a concussion, you may forget phone numbers, internet passwords, and other numbers that you use frequently. Short term memory is usually the most affected, which means that you remember perfectly something that happened a long time ago (before the accident) like your high school prom, but you cannot remember what you had for dinner last night. New research since 2014 has shown that dreaming is the way your brain converts things you experienced that day into long term memories. If the patient is not sleeping well, they never get into the REM stage of sleep so they do not dream and their short term memory is terrible. The disruption of your patient's sleep patterns may be causing some of their memory difficulties because they are not sleeping well. Treating their sleeping problems is VERY helpful for treating their concussion symptoms.

Reading Comprehension: You just read a paragraph in the newspaper. Then you read it again because you realized that you have no idea what you just read. Concussions can affect your vision as well as the way your brain processes things it sees. You read things but the words you see cannot be converted into thoughts that your brain understands. It doesn't seem to get into your head. Advise your patients that reading out loud helps if they are having this symptom. When you read out loud, your sense of hearing may allow you to process the words into thoughts by hearing the words even though your vision processing is not working well. I have always been a voracious reader but I did not ready a single novel for more than four years after my accident.

Writing Problems: Look at your patient's signatures from before and after the accident. Do they look the same? Ask the patient to bring in examples of their handwriting from before the accident. It is really obvious when you compare those to the handwriting on your intake paperwork (or re-exam paperwork) they filled out.

Another way your patient can experience writing problems is that his/her hand just doesn't seem to work properly. They know in their mind what they want to write but cannot make their hand perform that task. This is an example of losing dexterity in the hand. A third example of writing problems is that your patient may have difficulty with the process of thinking and putting their ideas on paper (or the computer.) They may be able to form a thought in their head but cannot convert it into written words.

Difficulty Learning New Things: This is related to your inability to comprehend the things you read, see, and hear. Most patients do not notice this for weeks or months after the accident because they may not have occasion to learn anything new. Then they may be assigned a new job duty at work that requires them to read an instruction manual. During this process, they find that they just cannot figure it out. If your patient is a student, you should inquire about their

grades and you may find out that this "A" student worked really hard last semester and struggled to make all "Cs." A few report cards from before the accident and a few after can be an important piece of evidence to the personal injury attorney when proving a concussion to the insurance company or the jury. .

Difficulty Understanding: This is one of the three ominous signs that indicates a poor concussion prognosis and long-term postconcussion syndrome. It is closely relasted to "Hearing Problems" because a hearing problem doesn't necessarily mean the patient does not "hear" what is said but, rather, fails to comprehend what was said.

Understanding is the process by which your brain converts sound, sights, and other sensations into *useable* information. This conversion process is interrupted by the concussion to your brain so you may find yourself shaking your head like you want to try to clear up your mind. You may find yourself hearing words spoken to you and not be able to understand what was said. You may read words but your brain cannot convert them into ideas that you understand. It can be very frustrating because you know you heard or read the words but you cannot figure out what they mean or turn them into coherent thoughts. You may even be able to repeat back the words but the reality is that you cannot convert them into thoughts. It is a feeling similar to listening to a foreign language you studied in high school where you know a few words of the foreign language but not enough words to really understand or follow a conversation in that language. You need to speak slowly to these patients, give them WRITTEN home care instructions and counsel their families if you want them to keep appointment and follow through with their care.

Difficulty Planning or Organizing: If you never plan or organize anything, you may not notice this symptom. However, you may start to notice this problem when you attempt to plan a sales campaign, organize a meeting, or simply plan what you are going to do that day. People most affected by this symptom are often teachers and self-employed people. Teachers must make lesson plans and keep thirty students organized every day. Self-employed people suffer perhaps the most because there is nobody else around to do the work you cannot seem to get done. Your business suffers and your income drops. The difficulty is that in the legal process, self-employed people have the most difficulty proving loss of income in order to recover compensation for their lost earnings.

Social Symptoms of Concussion

- Social withdrawal
- Relationship difficulties
- Loss of enjoyment of hobbies

Social Withdrawal: Since the patient is trying to hide their concussion symptoms from everybody, they don't want to be around their friends. They withdraw socially. They spend a lot of time alone and, at first, their friends and family think it is just because they are resting and recuperating from their injuries.

However, social withdrawal often continues after they feel physically better because it is part of the social symptoms of the concussion. When the patient is having difficulty understanding conversations, they don't want to be around people. It is too difficult and too exhausting to participate in normal conversations with their friends. They become isolated and lose friendships that have given them comfort and understanding in the past.

Your patients may lose friendships from angry outburst and so people do not want to be around them anymore. I recommend you counsel your concussion patients and their families about social withdrawal. Let the patient's family explain to the friends and in-laws that the patient has a concussion and needs to rest. If YOU, the doctor, never diagnose the concussion, then NOTHING is ever done by anyone to help your patient and they suffer alone, afraid and feeling unloved for months or years. YOU can make the difference for your patients. YOU diagnose the concussion and enlist their friends and family to help them. Without your diagnosis, the concussion feels like a "dark cloud" over your patient and they suffer a hundred times more than if you did your job.

Think of a concussion as "mental, emotional and social regression" to the level of a child. The patient may need to learn new social skills. So, while they are functioning at the level of a child, advise the patient to spend more time with their children or nieces and nephews. Advise the patient to go outside and play catch with his son to get his hand/eye coordination back. Advise the patient to play video games with her daughter to help regain spacial orientation as well as hand/eye coordination. With your good advice, the patient can recover more quickly and IMPROVE the relationship with their children rather than yell at them.

Playing children games is a great way for your patients to socialize. Nearly all children games help a concussed adult's brain to heal. Coloring in a coloring book improves hand/eye coordination and helps them learn to re-train their weak hand muscles. Riding a bicycle, playing basketball and ping pong all help your patient recover socially as well as mentally. Children are less judgmental and will enjoy having a parent playing THEIR games with them. The enjoyment the patient receives from these interactions will boost their confidence and help get them back into social interactions with adults sooner.

Relationship Difficulties: Concussion symptoms such as mood swings, impatience, and irritability can cause significant relationship difficulties. Most concussion patients suffer serious relationship difficulties. Perhaps more accurately, most concussion patients' spouses and families suffer serious relationship difficulties. Their family and friends do not want to be around them because they are irritable and impatient. If they do not know your patient is acting strangely because of the brain concussion, they just try to avoid interacting with your patient.

Many brain concussions are not properly diagnosed by doctors so it is very common that the patient does not even know it is a concussion. The purpose of this course is to teach you what is wrong with your patients so you can use this knowledge to diagnose, counsel and treat your patients. If you have never had a brain concussion, imagine that you are suddenly shipwrecked and you find yourself alone on a deserted island. You do not have your spouse with you or your family or your friends. You are completely and utterly alone with nothing. You have no idea if

you will EVER be rescued. After a few months of "surviving" you begin to think about what you have lost and how great your old life used to be. This, of course, makes you cry. Every time you think about how messed up your life has become, you just sit there and cry. The longer you are alone on the island, the less confidence you have of ever being rescued. You resign yourself to being alone forever with no human contact ever again. This is exactly how your concussion patients feel all the time. Your job is to help them.

Loss of Enjoyment of Hobbies: A cousin to apathy, you may find that activities you used to enjoy simply do not give you the enjoyment you used to get from them. You may keep doing them for a while but, since you receive no happiness or joy from doing them you just stop doing your hobbies. Since many of your hobbies may be done with friends, this also affects your socializing with them. Dancing, scrapbooking, golf, tennis, reading, bowling, leisure travel, and many other hobbies are severely affected by your injuries and the concussion symptoms. These hobbies were once a source of pleasure and enjoyment for you. They were the activities you did to rejuvenate your spirit, mind and body.

These concussion patients are not as happy now because they have lost their *down time*, those moments when they enjoyed pleasant diversions from the hustle and bustle of life's obligations. They have also lost the happiness derived from socializing with friends while doing these sports or hobbies. I did not enjoy golf for 4 years after my accident. I did not pick up a camera and do my photography hobby for more than 5 years after my accident. It is any wonder these people become depressed? The things that used to make them happy don't "work" anymore. What makes them happy? Nothing, really. These patients really need counseling and the help of their loved ones to get through this terrible ordeal.

Sleep Symptoms of Concussion

The sixth category of concussion symptoms is sleep disorder. Concussions can make you sleep *more* than normal. It can make you sleep *less* than normal. It can make you tired during the day even after sleeping ten hours a night. You may doze off during the day.

24% of concussion patients develop sleep apnea and end up on CPAP machines. If the concussion was never diagnosed (by you, doctor, after the car accident), how will anyone ever know that the sleep apnea is related to the car accident? I have come to believe that some people who have been diagnosed with narcolepsy and other sleep disorders may have, in fact, never been correctly diagnosed when they had a brain concussion. Later the sleep doctors simply never put two and two together. They never asked about car accidents, sports injuries or other trauma where concussions often occur. My theory is that this may explain why medical science simply cannot come up with a good explanation for these sleep disorders. The reality is that there is probably a very sound explanation but doctors do not connect the dots.

Be thorough and give your patients a chance to regain their health by diagnosing and obtaining treatment for their concussion-related sleep disorders. Always ask your car accident and sports injury patients about sleeping problems. Get them help if they have any disruption of their normal sleeping patterns. My neuropsychologist prescribed a bed for me that tilts up

mechanically because it was easier for me to breathe that way. The bill for my bed was evidence in the settlement of my car accident claim. If you prescribe anything to help your patient sleep better (or anything to get well), the combination of a doctor's prescription and a receipt for the purchase is great evidence for a personal injury attorney.

Order a sleep study if the patient is not sleeping well and the spouse tells them (or you) that the patient is snoring loudly or having "apneas" which are moments when they stop breathing and then gasp for air. If you don't help the patient with these sleep disorders, patients with sleep apnea that don't get on CPAP therapy get heart damage as well as brain damage. Atrial fibrillation has one of its risk factors being sleep apnea.

Help your patients by recognizing these symptoms of concussion and making appropriate testing and referrals.

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