

# Finding the Best Doctor for Concussion Care and Rehabilitation in Arizona

## *A free Consumer Awareness Guide*

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### *The 6 key questions you should ask your provider*

*to ensure that your provider is the right one to manage your care following a  
concussion or brain injury*



# What is a Concussion?

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**A concussion is a brain injury, a traumatic brain injury.**

**It causes damage to multiple areas of the brain. It changes the way the brain functions.**

Concussions are becoming increasingly common (1.8million per year), particularly for individuals who play a sport that involves contact with another person or object, such as football, soccer, lacrosse or hockey. Though concussions often result from a blow to the head, they can also result from severe shaking of the head and upper body like in a car accident.

Since every concussion causes *at least some injury to the brain*, it requires time and rest to heal properly, though many clinicians and researchers are now saying rest is not the best mode of therapy. Most concussions are mild, and people usually recover fully. Sometimes a concussion is not obvious at the time it occurs, so people don't realize that they have experienced it until much later, if at all.

*Concussion Myth: You have to black out or lose consciousness to sustain a concussion? Answer: False!*

# What is Second Impact Syndrome and PCS?

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**Second Impact Syndrome is sustaining multiple head injuries in a short time span.**

**A second head injury while still recovering from the first can be serious, or even fatal.**

Second impact syndrome is a serious issue, especially in youth sports. When children or young adults do not report injuries on or off the field and sustain a second concussion while they are still recovering from the first, the inflammatory response can be so severe that it triggers unstoppable inflammation and can cause Post-Concussion Syndrome (PCS).

Some of the worst cases of PCS we have seen are from individuals sustaining multiple concussions in a short amount of time.

# Signs and Symptoms of Concussion

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The effects of a concussion are usually temporary but can include headaches, light and sound sensitivity, problems with concentration, memory, balance and coordination.

Because a healthy brain is necessary for proper function and to accomplish daily tasks like reading, driving and sleep, a more serious or lasting concussion injury may affect an individuals' eye movements, balance, spatial orientation, speed, accuracy, endurance, reaction time, thoughts, emotions, and overall health.

Common symptoms after a concussive traumatic brain injury are headache, loss of memory (amnesia) and confusion. The amnesia, which may or may not follow a loss of consciousness, usually involves the loss of memory of the event that caused the concussion.

Signs and symptoms of a concussion may include:

- Headache or a feeling of pressure in the head
- Temporary loss of consciousness
- Confusion or feeling as if in a fog
- Amnesia surrounding the traumatic event
- Dizziness or "seeing stars"
- Ringing in the ears
- Nausea
- Vomiting
- Slurred speech
- Delayed response to questions there is hope
- Appearing dazed
- Fatigue
- Some symptoms of concussions may be immediate or delayed in onset by hours or days after injury:
- Concentration and memory complaints
- Irritability and other personality changes
- Sensitivity to light and noise
- Sleep disturbances
- Psychological adjustment problems and depression
- Disorders of taste and smell

\* <http://www.mayoclinic.org/diseases-conditions/concussion/basics/symptoms/con-20019272>



## Why Specialized Concussion Care Matters

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While it is a good idea to visit your primary care doctor or emergency room after you have experienced a concussion, working with a practitioner specifically trained in managing concussions long-term and developing individual solutions can be critical to attaining full recovery.

### **How do you locate and select such a practitioner?**

This e-book outlines the six questions you should ask when seeking out a concussion care specialist to work with you and support your healing during recovery.

“Students of the Carrick Institute are trained in the most current research and technology. They are taught to look beyond the symptoms of the patient to identify the underlying cause, in order to create a personalized treatment program resulting in measurable, long-lasting improvements.”

## Key Question 1

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### Is my practitioner specially-trained to diagnose and treat complex brain injuries?

To ensure that you are working with a practitioner who has been specially-trained in this area, seek out someone who has received training from the Carrick Institute for Graduate Studies.

*Ted Carrick DC, PhD*, has been practicing since 1978, specializing in the diagnosis and treatment of neurological disorders. As a chiropractic neurologist, teacher and brain researcher, he sees patients from all over the country and around the world. The Carrick Institute ([www.carrickinstitute.org](http://www.carrickinstitute.org)) extensively trains chiropractors in the field of neurology, neuroscience, and advance clinical applications. Brain-based therapies are learned and applied, in order to provide successful treatment without surgery or the use of medication.

*“The human brain: a storybook of evolution, a palette for the infinite expression of human experience, a thing of mystery and a constant source of wonder. The past decade has been an incredibly exciting time, in terms of our rapidly growing knowledge of the human brain. The present and future potential for the application of this expanding knowledge base, toward the benefit of human kind is astounding. This is the soul of our institute. The Chiropractic profession, since its beginning, has always had its roots in clinical neurology. This curriculum has been formulated so that those Chiropractors who desire a superior knowledge of neurology might obtain a standard which will enable them to better care for their patients and become referral sources for neurological diagnosis.”*

*- from the Carrick Institute’s website*

A provider with Carrick Institute training is going to be well-equipped to manage your brain injury and concussion issues.

## Key Question 2

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### Does my practitioner conduct a thorough, comprehensive neurological examination?

Treating the root cause of the condition, not just the symptoms, is the fastest way to recovery and is the best way to obtain optimal health and wellness. Not just any exam will do when dealing with concussions.

When you choose a practitioner, insist on a complete neurological examination. To determine the underlying cause of your health issues, extensive and thorough testing is crucial. A thorough Neurological Examination typically takes 1 to 2 hours to complete. In addition, blood, stool, and salivary testing may be required.

To accurately assess the damage caused by the injury, advanced testing should be performed to establish an individual's baseline in each of the following domains:

- Vestibulo-ocular Reflexes
- Vestibulo-spinal Reflexes
- Proprioceptive Reflexes
- Motor Coordination and Reaction Time
- Cognitive Processing
- Auditory Integration
- Structural Integrity
- Autonomic Stability

Once the above 'critical function' areas have been evaluated, measured and identified with the latest in diagnostic tools, an individual can decide if he or she would like to improve the areas of deficiency, or simply chart the progression, or regression, of the neurological domains. All results of the testing will be analyzed through the lens of the Carrick Institute's functional model in order to discover patterns that have begun to develop and to work with them before a more serious problem develops.

Once the root cause of your condition is discovered, an individualized treatment plan can be implemented.

### *Key Question 3*

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#### **Does my practitioner utilize cutting-edge brain-based therapies?**

The field of concussion and head injury treatment is constantly changing and evolving.

It's important to seek a practitioner who is committed to offering cutting-edge therapies. This is essential to ensure that you are receiving the most up-to-date, comprehensive and customized care needed to restore full brain function. Below are some of the therapies and objective testing tools you should expect to be available when choosing your practitioner:

##### **--SVI Vision Integration™**

The SVI™ is a cutting-edge, high performance evaluation and training device that records response to visual, gross motor and neuro-cognitive tasks.

##### **--Interactive Metronome (IM)**

The Interactive Metronome is a research-based training program that helps children and adults overcome attention, memory, and coordination limitations.

##### **--Peripheral Nerve Rebuilder Therapy (PNRT)**

PNRT is a supplemental therapy which treats the neurological origin of all physiological symptoms rather than just the symptoms themselves.

##### **-Non-Invasive Cranial Nerve & Spinal Cord E-stim**

Different forms of electrical stimulation can affect the brain and peripheral nerves in different ways. The doctor can effectively target specific areas of the brain with selective modes of electrical therapy

### **--Balance Rehabilitation with BERTEC**

Computerized Assessment of Postural Systems is a tool that measures an athlete's balance and ability to orient themselves in space. This high-tech piece of equipment evaluates the vestibular system (often injured in concussions), the proprioceptive system, and how they interact with the visual system.

**--Saccadometry--** Saccadometry is one of the most recent technologies in measuring the movement of the eyes. Research has shown that the movements of the eyes are intimately related and correlated to the degree of integrity of the brain. By analyzing this area of the brain closely, the doctor can identify an athlete's accuracy, reaction time, speed, and performance potential.

## **Key Question 4**

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### **Does my practitioner offer measurable results backed by contemporary diagnostic testing?**

It is *key* to select a practitioner who can measure and communicate your progress to you effectively throughout your treatment process.

After an initial exam, your practitioner will be able to tell you where you currently are in your healing process, in a number of specific ways. Your treatment plan should be specifically tailored to meet your needs. The doctor should present measurable results as you progress through your care so that you understand and are aware of steps along your rehabilitation process. At a minimum, each patient should be provided with an objective measurement of their vestibular and visual reflexes on a regular basis. Not only should your doctor be able to tell you if you are improving, he or she should be able to anticipate potential setbacks and understand when to change therapies to offer improvements.

## **Key Question 5**

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### **Does my practitioner understand the Brain Gut Axis?**

The brain controls our body and our gut. Our gut provides critical information and feedback to the brain in the form of neurological information and fuel for our brain and nerves. When this relationship breaks down, so can your health. It is not uncommon to develop GI (gastrointestinal) issues after a concussion, as a result of the communication between the brain and gut misfiring. This is why it is vital that your practitioner understands the brain gut connection--also referred to as the *Brain-Gut-Axis*-- because it is very difficult to fully comprehend the potential degree of dysfunction within a person's entire body without also considering this connection.

In other words, if your GI system is inflamed, your brain will also be inflamed. If the Brain-Gut-Axis is not evaluated along with the rest of your system, it can be very challenging for you to progress as expected.

Ensuring that your practitioner will take the time to compile a comprehensive picture of your health--including the Brain-Gut-Axis connection--is essential. The right practitioner will integrate his or her understanding of the Brain-Gut-Axis with functional neurology, immunology, and endocrinology, to recommend the appropriate therapies to improve not only your brain health but your overall health. This comprehensive perspective will result in faster and more powerful healing to your brain and body.

### *Key Question 6*

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#### **Is my practitioner experienced in managing complex cases?**

It's critical to identify a practitioner who understands the challenges and complexities of concussions and brain injuries.

It is vital that your practitioner understand that each patient is unique. In each case, a variety of approaches and different types of therapies must be engaged in order to achieve the desired results. Your practitioner must be equipped to identify and treat symptoms long after the original injury occurred.

In addition to the Brain-Gut-Axis previously mentioned, your practitioner must know when to incorporate cognitive behavioral therapy to address underlying social and stress responses associated with concussions and brain injuries. He or she must also be trained to test for underlying metabolic issues such as anemia, gut infections, inflammation, dysglycemia, thyroid disorders, etc. These issues can exacerbate the inflammatory cascade, which is occurring in the healing brain.

***The bottom line is that no concussion or brain injury should be assumed to be straightforward or taken at face value, without appropriate investigation first. Ask a potential practitioner to share with you about complex cases he or she has successfully managed.***

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# Practitioner Evaluation Checklist

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Take this convenient reference to your next practitioner appointment.

## Key Question 1

Is my practitioner specially-trained to diagnose and treat complex brain injuries? Has he or she received training from the Carrick Institute for Graduate Studies?

## Key Question 2

Does my practitioner conduct a thorough, comprehensive neurological examination in order to determine the root cause of my condition?

## Key Question 3

Does my practitioner utilize cutting-edge brain-based therapies?

## Key Question 4

Does my practitioner offer measurable results backed by contemporary diagnostic testing?

## Key Question 5

Does my practitioner understand the Brain-Gut-Axis?

## Key Question 6

Is my practitioner experienced in managing complex cases?

**Notes:**

# Arizona Chiropractic Neurology Center

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## **An Individualized and Thorough Approach to Concussion Care**

Are you discouraged by disappointing results or frustrated with medications that have created more symptoms than they've treated? Have you lost hope for full recovery from your injury? We welcome you to Arizona Chiropractic **Neurology** Center (ACNC), a Chandler-based clinic staffed by a caring and progressive team of practitioners, experienced in managing complex cases and specializing in neuro-metabolic treatment.

## **Specialized training and experience**

Dr. Trevor Berry and Dr. Russell Teames are Board Certified Chiropractic Neurologists thoroughly-trained to diagnose and treat complex brain injuries. Having received their certification from the Carrick Institute for Graduate Studies, our Doctors also lectures nationally and locally on Functional Neurology, concussion management, as well as brain based care for Erchonia Laser Company. This ensures that Our Doctors are always on the forefront of the field's progress and are up-to-date with the most current research and therapies available for traumatic brain injury and concussion.

## **Comprehensive evaluation process and diagnostic tools**

A comprehensive evaluation process is conducted with all new clients. Arizona Chiropractic Neurology Center provides these baseline testing services to individuals using the most modern and contemporary diagnostic instruments available. ACNC utilizes VNG testing, computerized dynamic platform posturography, saccadometry, SVI Vision Integration, Interactive Metronome as well as an extremely thorough bedside chiropractic functional neurologic exam to assess strength, posture, gait cognitive and motor responses. The complete neurological examination is the basis for determining the root cause of your condition and the foundation for your treatment. By not simply treating the symptoms, and rather the cause of the symptoms, you will notice measurable improvements. The doctors at ACNC utilize testing throughout your treatment to monitor growth and to ensure you are headed in the right direction.

## **Cutting-edge tools and therapies**

Arizona Chiropractic Neurology Center utilizes a wide variety of cutting edge therapies during treatment. We will provide non-invasive therapies specifically selected for you, and we understand how to monitor changes in your function.

## **Experienced in managing complex cases**

Our team is very familiar with managing complex cases. We focus all of our efforts in providing care to patients who have come to ACNC after having been everywhere else and tried everything, yet are still plagued with symptoms. Patients from all over the country seek care from Dr. Berry and Dr. Teames and their team because they are able to provide the type of care that helps patients get people back to doing the things they love to do.

## **Holistic, thorough approach**

The initial examination and follow up care provided by ACNC are very thorough. You will receive a complete neurological exam upon your first visit, as well as recommendations for further tests you may have not received before. Following the initial examination the doctors at ACNC will come up with a plan of care specifically tailored to your condition and needs. At ACNC, understanding the brain-body connection is foundational to our approach to care. The team at ACNC integrates the physical medicine of Chiropractic with the latest knowledge and technology in Neuroscience, Functional Neurology, Endocrinology, and Immunology.

## **This uniquely thorough approach is offered through very few clinics around the world.**

We have found this to be the key to unlocking permanent and lasting doors on the road to recovery. The team at ACNC is invested in the care of their patients and helping those patients achieve a greater quality of life. Patients who are committed to getting better and achieving long-term health are those who do best at ACNC. The treatments offered are not band-aids, but rather lay the groundwork to creating a plan for optimal well-being and longevity.

When you choose ACNC, you will receive personal support, a complex examination, and a treatment plan specifically designed for you. When you choose ACNC you are choosing to play a role in your own health. Call for your appointment (480) 756-2600

# TESTIMONIALS

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“When I was going through all this, I wasn’t sure if I was going to be able to compete at the same level again... before all this I had been to the junior Olympics several times and was looking to compete in

national competitions, and since I was having all these weird and strange symptoms, I didn't know if I would be able to get to do what I love again. But I am!

My first competition back was a national competition and I was in the top heat, I even got a scholarship to Nebraska Rifle Team so now I get to do what I love all through college!

I enjoyed my experience here a lot, everyone is really nice and I feel like I have a family here. They're very nice people and they're very good at what they do, so it makes you feel like you're part of the family. It's not like you're going to the doctors, it's like you're going to see a friend and get some help while you're at it."

-Hannah V., Recipient of a Scholarship to Nebraska Rifle Team 2015

"I met Dr. Berry and Dr. Teames after suffering from unrelenting vertigo for 9 days. I am a nurse so I am educated about the possible causes and treatments of this terrible illness. I had already tried taking the typical medications offered and I had done the recommended Eply's maneuvers that are used to help move the crystals out of the inner posterior ear canals. None of it helped. By the time I had my evaluation I was mentally and physically exhausted from trying to fight the spinning, and had already missed several days of work. I was blown away by the treatment I received during my first visit with Dr. Berry! He and Dr. Teames spent an inordinate amount of time going through my history, bedside exam and advanced diagnostics at their office. It was only through this thorough testing and examination that they were able to diagnose that I had an atypical type of vertigo that involved my anterior inner ear canal and other brainstem factors. This is the reason why the standard Eply's maneuvers and other treatments weren't working, and were likely making my vertigo worse. By the end of my first visit I was able to think more clearly. I improved after each visit and by my third visit I had complete relief of my vertigo. I learned so much more about the causes of vertigo and experienced excellent care from Dr. Berry. I cannot say enough about the outstanding care I received! I am so thankful for Dr. Berry and his team!"

-Kris Diegle, RN