

## UPDATES IN CONCUSSION MANAGEMENT

Medical management of sport-related concussion continues to be a progressively evolving frontier. And although many would say that concussion care today is a far cry from where it was 20 years ago, those in healthcare will likewise tell you that the medical management of concussion is a far cry from where it was just 5-10 years ago. In fact, clinicians who are providing Athletic Training Services, or even Sports Medicine Healthcare in general, are continuing to take the lead in defining and updating what it means to appropriately manage the concussed patient.



Update

For starters, no two concussions are identically alike. Some patients struggle with long-term bouts of dizziness and headaches. Others develop anxiety and mood changes. And still others struggle with cognitive fatigue and migraines. Every patient presents individually and must be managed individually. **There is no “cookie-cutter,” “rest-only” treatment that works for every concussion.**

Additionally, whereas the medical management of an ACL tear is focused predominantly on rehabilitating the affected lower extremity, medical management of concussion is focused on rehabilitating the whole person. As referenced previously, some concussion patients develop anxiety and mood changes. These patients are often overwhelmed in a variety of Situations. They report difficulty sleeping, and they likewise struggle staying focused. If these patients were prescribed a long-term “rest-only” intervention, such a treatment plan would only serve to exacerbate the patient’s symptoms.

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## Types of Concussions

More than 15 years ago, concussions were classified as mild, moderate, or severe; according to the presence or absence of a loss of consciousness, the longevity of the symptomology, and the presence or absence and duration of post-concussive amnesia. Since that time, research has determined that there is limited correlation between a loss of consciousness and concussion severity, the longevity of symptomology is influenced by too many separate factors to be independently diagnostic, and post-concussive amnesia isn’t present in every patient. Therefore, the classification system of the past has been long done away with.

Research, however, in the last few years points to a greater focus on specifically classifying concussions on the basis of the symptomology and/or the neurological systems most directly affected by the concussion instead. As a result, the medical management of concussion has become less concerned about classifying the severity and more focused on rehabilitating the individual neurological systems affected. As mentioned, concussed patients who suffer from anxiety and mood changes receive only limited improvement from the traditional “rest-only” approach. By contrast, these same patients demonstrate meaningful improvement when they received support in regulating their schedule and are provided with a medically supervised exertional rehabilitation program.



The second piece of this column provides for a selection of three clinical symptoms/neurological systems often affected in concussed patients.

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### Central States Orthopedics Physicians

R. Clio Robertson, MD  
Don L. Hawkins, MD  
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David K. Wong, MD  
Bryan J. Hawkins, MD

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Ronald S. LaButti, DO  
Jeff A. Fox, MD

Kathleen M. Sisler, MD  
Troy A. Glaser, DO  
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Blake E. Shockley, MD

Debbie A. Gladd, DO  
Casey L. Smith, MD  
Brent C. Nossaman, DO  
Wendy B. Emerson, MD

**Concussion and Daily Living**

A concussion is defined as a form of traumatic brain injury. And, unlike a fractured collarbone or a dislocated kneecap that can be placed in a sling or brace to limit activity and provide for rest and recovery, the effects of a traumatic brain injury are much more complex. As brain function is essential for all operations of daily life, traumatic brain injuries will have ramifications in almost all areas of daily life. For example:

**Common Concussion Symptoms:****HEADACHE**

Challenges with Daily Living:

- Difficulty concentrating
- Difficulty in demanding environments with loud noises, bright lights, lots of people, etc...

**DIZZINESS**

Challenges with Daily Living:

- Difficulty with computer work
- Difficulty with eye tracking
- Inability to drive

**FATIGUE/LOW ENERGY**

Challenges with Daily Living:

- Difficulty staying awake
- Difficulty concentrating for long periods of time
- Difficulty completing tasks/assignments

**NECK PAIN**

Challenges with Daily Living:

- Difficulty with computer work
- Inability to drive
- Increased headache severity

**TROUBLE FALLING ASLEEP**

Challenges with Daily Living:

- Inability to concentrate/focus
- Highly sensitive to demanding tasks and environments



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**Types of Concussions cont...****VESTIBULAR**

Common Symptoms:

- Slow, wavy dizziness
- Fogginess
- Overwhelmed by high stimulus environments
- Quick movements increase symptoms

**OCULAR**

Common Symptoms:

- Frontal headache
- Difficulty with visual-based activity and eye tracking
- Pressure behind the eyes

**COGNITIVE FATIGUE**

Common Symptoms:

- General headache
- “End of the Day” symptoms
- Fatigue
- Sleep deprived

Even though the implementation of immediate rest post-concussion can dramatically improve post-concussion symptomology and reduce the likelihood for long-term deficits, the medical management of the concussed patient's recovery process is much more involved than a “rest-only” prescription. And, this does not mean that immediate rest post-injury is to be ignored. Again, if many more patients recovering from a concussion would focus on truly resting from cardiovascular and cognitive activities, they would be much more likely to see greater short-term improvements. By contrast, for those patients who continue to struggle despite rest, the implementation of treatment pathways specifically directed toward the patient-specific condition is much more effective in the medical management of concussion. As a result of receiving a more focused plan of care, our patients are seeing dramatic improvements in their overall condition and they are returning to what they enjoy more quickly and safely.

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**Main Clinic**

6585 S. Yale Ave., Ste. 200  
Tulsa, Oklahoma 74136  
918-481-2767

**Bixby Clinic**

12800 S. Memorial, Ste. D  
Bixby, Oklahoma 74008  
918-394-2767

**South Tulsa Clinic**

9716 S. Riverside Dr., Ste. 110  
Tulsa, Oklahoma 74137  
918-528-3300

**Owasso Clinic**

13616 E. 103rd St. N., Ste. B  
Owasso, Oklahoma 74055  
918-272-4488

**Downtown Clinic**

802 S. Jackson, Ste. 405  
Tulsa, Oklahoma 74127  
918-583-4400

**Hillcrest South Medical Plaza**

8803 S. 101st E. Ave, Ste. 300  
Tulsa, OK 74133  
918-994-6277