

## INTERESTING **Insights**

### *Have you or someone you know experienced a concussion?*

"A concussion is a type of traumatic brain injury (TBI) caused by a bump, blow, or jolt to the head. Concussions can also occur from a fall or a blow to the body that causes the head and brain to move quickly back and forth. Doctors may describe a concussion as a "mild" brain injury because concussions are usually not life-threatening. Even so, their effects can be serious. (<https://www.cdc.gov>)"

An estimated 3.8 million sports- and recreation-related concussions occur in the United States each year and as many as 50% go unreported (Harmon et al 2018).

#### **According to the CDC, signs and symptoms of concussions include:**

- Difficulty thinking clearly
- Difficulty concentrating
- Memory problems
- Headache
- Blurred vision
- Dizziness
- Nausea or vomiting
- Balance problems
- Sensitivity to light or sound
- Feeling tired
- Irritability
- Sadness
- Anxiety
- Sleeping more than normal
- Difficulty sleeping



*At Kitsap Physical Therapy, we have 4 therapists who are certified and trained in evidence-based protocols for concussion management. To schedule an appointment, visit [www.KitsapPT.com](http://www.KitsapPT.com) or contact one of our certified Vestibular Rehab and Concussion Management specialists (AIB-VR/CON):*

**Bremerton (360) 792-1015**  
2500 Cherry Ave #203  
Bremerton, WA 98310

**Poulsbo - NKMC (360) 779-3764**  
20730 Bond Rd NE #150  
Poulsbo, WA 98370



**kitsap**  
**physical**  
**therapy**  
AND SPORTS CLINICS

## **Post-Concussion Management**

*Physical therapy approach to the treatment and management of concussions*

## GOLD STANDARD OF TREATMENT

Most people recover from concussions, however, some people will have a delayed recovery. Our certified clinicians will work with you and your physicians to help you improve your function and return to normal activities.

### **What to expect in the clinic:**

**This program includes a comprehensive assessment of:**

- Neuro-cognitive functioning, including:
  - Attention
  - Memory/working memory
  - Executive function
  - Language/communication
  - Visuospatial ability
  - Orientation
  - Motor/sensory functions
- Vestibular Assessment, including:
  - Special tests to help identify the cause of dizziness/vertigo symptoms
  - Ability to tolerate movement
  - Balance



## EVIDENCE-BASED RESEARCH

**Treatment will involve evidence-based interventions, conducted one-on-one with a certified clinician, and will include, as appropriate:**

- Treatment of Benign Paroxysmal Positional Vertigo (repositioning of the otoconia (inner ear “crystals”) in the canals).
- Balance training
- Cognitive training
- Aerobic exercise
  - Studies have shown efficacy in treatment of symptoms (including cognitive deficits) with properly dosed aerobic activity (Leddy et al, 2013). Your therapist will use a specialized protocol to establish a safe exercise program to help speed recovery and return to activity (Leddy et al, 2016).
- American Institute of Balance Vestibular-Cognitive Integration protocol
  - An integrated approach that addresses both vestibular and concussion management simultaneously, and includes longitudinal assessment as well as providing an objective measurement to assist in return to activity decisions (Kurtzer, D, & Gans, R, 2017).
- Individualized home program similar to clinician-directed program that is safe for the patient to complete independently.
- Frequent reassessment and adjustment of treatment plan as needed.



## ADDITIONAL INFORMATION

### **Sports Concussions**

Sports Concussions are unique and often require a multi-disciplinary approach to care. While the first head injury can prove problematic, subsequent injuries are even more likely to cause long-term problems. To preserve our young athletes' brain health, performance and potential for success, it is critical that coaches, players and parents are aware of the potential dangers of sports concussions and the importance of proper diagnosis, treatment and medical clearance to return athletes safely to play.

For more information, please contact the **Kitsap Sports Concussion Clinic at (360) 782-5843** located in Silverdale.

### **Resources**

Visit The Center for Disease Control and Prevention's page on Traumatic Brain Injury and Concussions at <https://www.cdc.gov/traumaticbraininjury/>

Visit The American Institute of Balance's website at [www.dizzy.com](http://www.dizzy.com)

### **References:**

*Kurtzer DA & Gans, RE. Labyrinthine and Cortical Concussion: Treatment with Vestibular and Cognitive Rehabilitation. Glob J Oto 2017; 5(1): 555653. DOI: 10.19080/GJO.2017.05.555653*

*Langlois JA, Rutland-Brown W, Wald MM. The epidemiology and impact of traumatic brain injury: a brief overview. J Head Trauma Rehabil. 2006;21:375-78.*

*Leddy, JJ, Hinds, A, Sirica, D, & Willer, B. (2016). The role of controlled exercise in concussion management. PM&R, 8, S91-S100.*

*Leddy, JJ, Sandhu, H, Sodhi, V, Baker, JG, & Willer, B. (2012). Rehabilitation of concussion and post-concussion syndrome. Sports Health 4(2), 147-154.*