

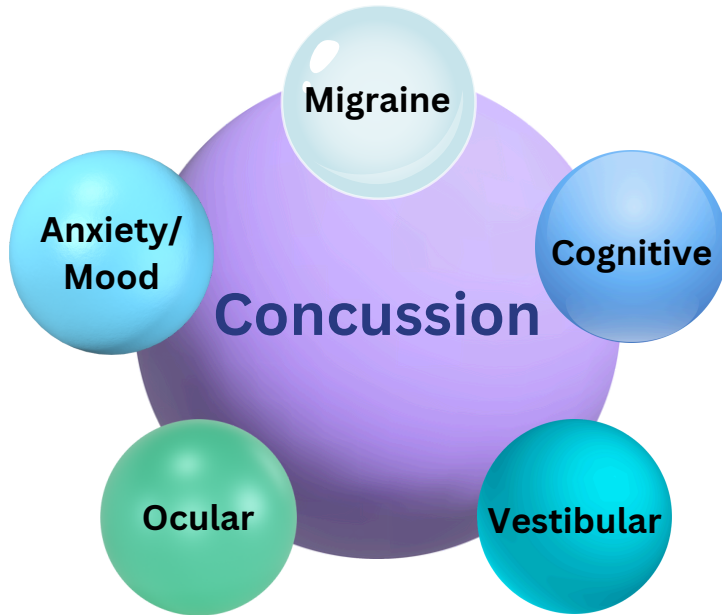
# 5 TYPES OF CONCUSSION

with 2 Modifying Factors

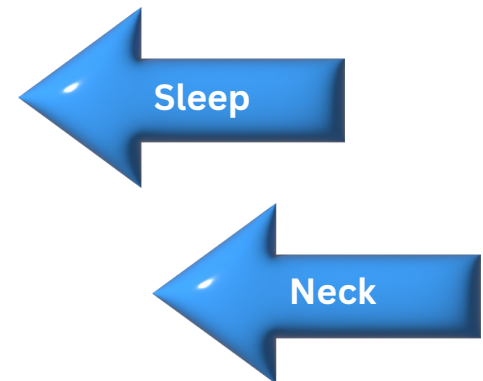


“ Concussions are characterized by diverse symptoms and impairments in function resulting in different clinical profiles and recovery trajectories. ”

## 5 Concussion Types



## 2 Modifying Factors



## CONCUSSION FACTS

- Symptoms will be broad and generalized during the first week following a concussion and will generally include symptoms like headache and fatigue.
- After the first week, if symptoms persist, they will tend to fall into one of the 5 clinical trajectories.
- There could be more than one trajectory type present.
- Specific trajectory and outcome depends on several factors:
  - Direction of force (linear vs. rotational)
  - Location of impact
  - Amount of force involved
  - Pre-injury risk factors

## ACTIVE TREATMENT

Research is showing that active, specialized treatment - focused on specific symptoms - helps the brain recover from injury. These treatments include:

- |  |  |
|--|--|
| ▪ Neuropsychology                      | ▪ Neurosurgery                                 |
| ▪ Vestibular Physical Therapy          | ▪ Neuroradiology                               |
| ▪ Exertional Physical Therapy          | ▪ Chiropractic                                 |
| ▪ Physical Medicine and Rehabilitation | ▪ Cognitive Therapy/ Speech Language Pathology |
| ▪ Neuro-optometry/ Neuro-ophthalmology |  |
| ▪ Orthopedist                          |  |

## RISK FACTORS (which may delay recovery)

- |                                |   |
|--------------------------------|---|
| • History of prior concussions | • Migraine history                                      |
| • Motion sickness              | • Gender (female)                                       |
| • Visual problems              | • Age (younger children tend to take longer to recover) |
| • Learning or attention issues |   |

# CONCUSSION CLINICAL TRAJECTORIES

A model for understanding assessment, treatment and rehabilitation.

## COGNITIVE

“Cognitive difficulties include decreased concentration, increased distractibility, difficulty learning/retaining new information or decreased multitasking abilities. Sometimes accompanied by increased fatigue as the day progresses.”



## VESTIBULAR

“Impairments of the vestibular system - the balance center of the brain - affects one’s ability to interpret motion, coordinate head and eye movements, or stabilize vision upon head movement.”



## OCULAR

“Ocular dysfunction occurs when the movement of the eyes in tandem, or binocular movement, is affected. This may result in difficulties bringing the eyes together, or moving one’s eyes to track motion.”



## POST-TRAUMATIC MIGRAINE

“Post-traumatic migraine symptoms include headaches, nausea, and/or sensitivity to light or noise.”



## ANXIETY/MOOD

“This occurs when someone has a hard time turning his or her thoughts off, being particularly ruminative, or suffering from excessive worry or concern.”



**TWO MODIFYING FACTORS:** The presence of modifiers impacts the concussion symptoms.

### SLEEP

The sleep modifier involves sleeping more or less than usual and having difficulty falling or staying asleep.

### NECK

The neck modifier includes neck pain, stiffness or difficulty moving the neck.

The information on this infographic is from the University of Pittsburgh Medical Center’s *TREAT Sport-related Concussion Conference* on April 20-21, 2024. It was based on research from: Collins, Kontos, Reynolds, Murawski, et al. *KSSTA*; 2014. Kontos & Collins, *APA Books*; 2018. Kontos et al. *Curr Sports Med Rep*; 2019. This *5 Types of Concussion and 2 Modifying Factors* information reflects an update from the original *6 Types of Concussion*.



<https://www.tndisability.org/brain>  
@BrainLinksTN

