

# CONCUSSION CLINICAL TRAJECTORIES

A Model for Understanding  
Assessment, Treatment  
and Rehabilitation

## COGNITIVE/FATIGUE



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 - affect 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 eye 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.

## CERVICAL



Sometimes, the concussive blow affects the extra-cranial region including the neck and/or spinal cord. An injury of this type may lead to ongoing headaches.

## 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.

# SIX TYPES OF CONCUSSION

- 1 Cognitive/Fatigue
- 2 Vestibular
- 3 Ocular
- 4 Post-traumatic Migraine
- 5 Cervical
- 6 Anxiety/Mood

## FACTS

- \* Symptoms will be broad and generalized during the first week following 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 6 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.

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

## RISK FACTORS (which may delay recovery)

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

Source: Kontos, A.P. Collins, M.W., (2018). *Concussion: A Clinical Profile Approach to Assessment and Treatment*.