

# Concussion Information

For  
Parents and Athletes

# What is a concussion?

- **A concussion is a brain injury that:**
  - Is caused by a bump or blow to the head
  - Can change the way your brain normally works
  - Can occur during practices or games in any sport
  - Can happen even if you haven't been knocked out
  - Can be serious even if you've just been "dinged"

# Symptoms of Concussions

- Concussion symptoms can be grouped into 3 major categories
  - Physical symptoms
  - Emotional symptoms
  - Cognitive(thinking)

# Physical Symptoms:

- Headache
- Blurry vision
- Dizziness
- Nausea
- Sensitivity to noise and light
- Pressure in the head
- Neck pain
- Poor muscle tone
- Feeling sluggish, hazy, foggy, or groggy
- Dazed or stunned

# Emotional Symptoms:

- Fatigue
- Confusion
- Drowsiness
- Sleep disturbance
- Irritability
- Sadness
- Nervousness
- Change of behavior and personality

# Cognitive Symptoms:

- Feeling slowed down
- In a fog
- “Don’t feel right”
- Can’t concentrate
- Memory impairment
- Perseveration
- Answers questions slowly

# What are the short term consequences of concussions?

- Most concussions resolve in 5-10 days
- Improvement in concussion symptoms generally parallel improvements in neurocognitive testing performance
- Athletes should never return to sporting activity until all symptoms have disappeared

# Do Not Return Too Soon

- During recovery, the brain is more vulnerable to repeat injury
- Animal studies show that ability to learn new information remains impaired
- Excessive activity during the post concussion period may delay recovery
- Second impact Syndrome



# Second impact Syndrome

## Description

- SIS is the sudden onset of massive brain swelling in an athlete who is in the head for the second time within a relatively short time-frame(1 week)
- Often the first hit is not reported or thought to be minor
- Often, a fatal occurrence

## Incidence

- Very, very rare
- Tends to occur in younger athletes
- Is not the same as having a subdural or epidural head injury
- Is thought to occur in an athlete who has sustained a concussion but not fully recovered

# What is the significance of the hippocampus?

- The hippocampus is a major “interstate highway” of information activity in the brain
- Abnormalities in the hippocampus can affect emotion, memory and spatial orientation
- Autopsy studies on athletes with CTE show striking abnormal findings in the hippocampus similar to those seen with Alzheimer’s disease

# What are the long term consequences of concussions?

- Post Concussion Syndrome
- Persistence of symptoms in the face of normal physical, radiographic and cognitive exams
- Delayed death of brain cells
- Chronic traumatic encephalopathy

# How can I prevent a concussion

- Follow your coach's rules for safety and the rules of the sport
- Practice good sportsmanship at all times.
- Use the proper sports equipment including personal protective equipment (such as helmets, padding, eye and mouth guards). In order for equipment to protect you, it must be:
  - The right equipment for the game, position, or activity
  - Worn correctly and fit well
  - Used every time you play