CONCUSSION REHAB

Steve Sanchez, PT, OCS, Cert MDT, Cert Con-AIB

Objectives

- Define
- S/S of Concussion
- When is therapy needed?
- Basic Concussion Management in Rehab
- Guidelines for Clearance/RTP

Definition

- It IS a BRAIN INJURY
- Force applied to the body that then applies force to the head, whether that be a direct or indirect head injury[1]
- Neurologic impairment that could result from structural or functional damage to the brain[1]

Signs and Symptoms

- LOC?
- Neurologic deficit (GCS)
- Balance/gait impairments
- Amnesia
- HAs
- Cognitive (Mental fogginess)
- Emotional/Lability
- Sleep/wake disturbances

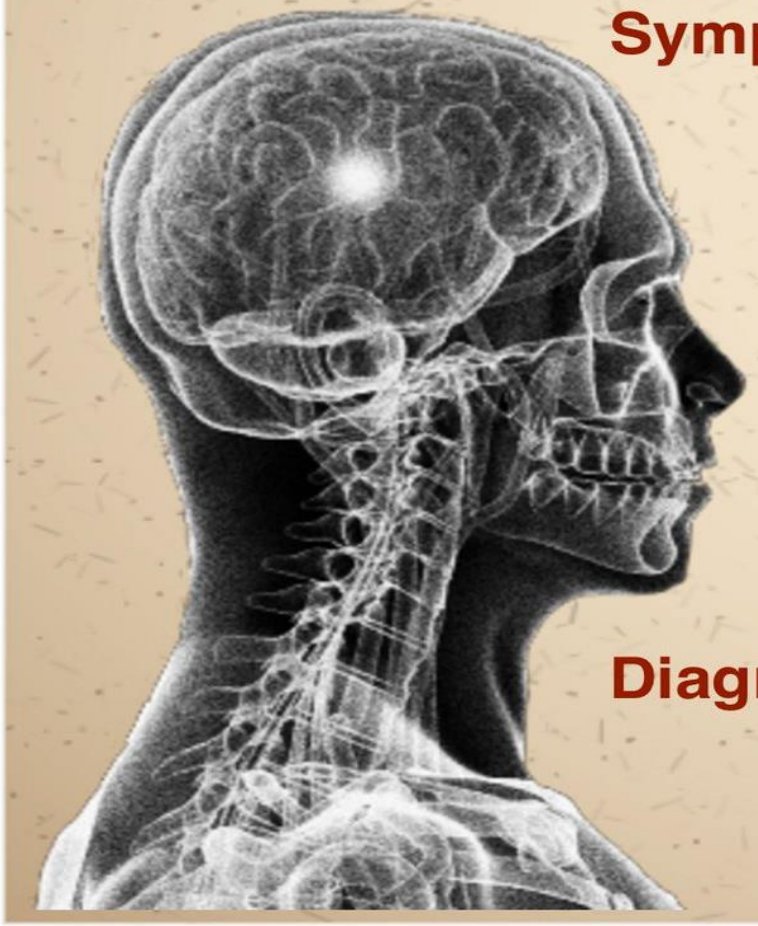
Immediate Evaluation

- GCS
- Scat 5
- RED FLAGS
- Balance testing
- Delayed onset symptoms

Second Impact Syndrome (SIS)

What is it?

SIS occurs when an athlete suffers a second concussion while their brain is still healing from an initial concussion. SIS can occur even days or weeks after the initial concussion is diagnosed.



Symptoms

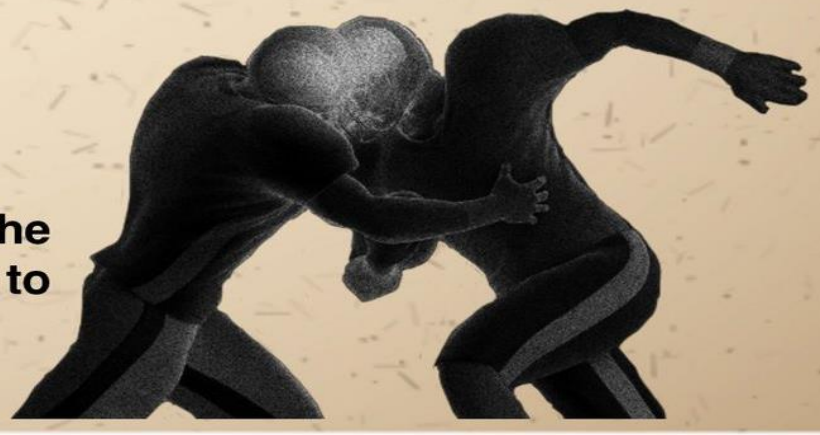
Symptoms include, headache, neck pain, nausea and vomiting, light sensitivity, noise sensitivity and fatigue.

Risks

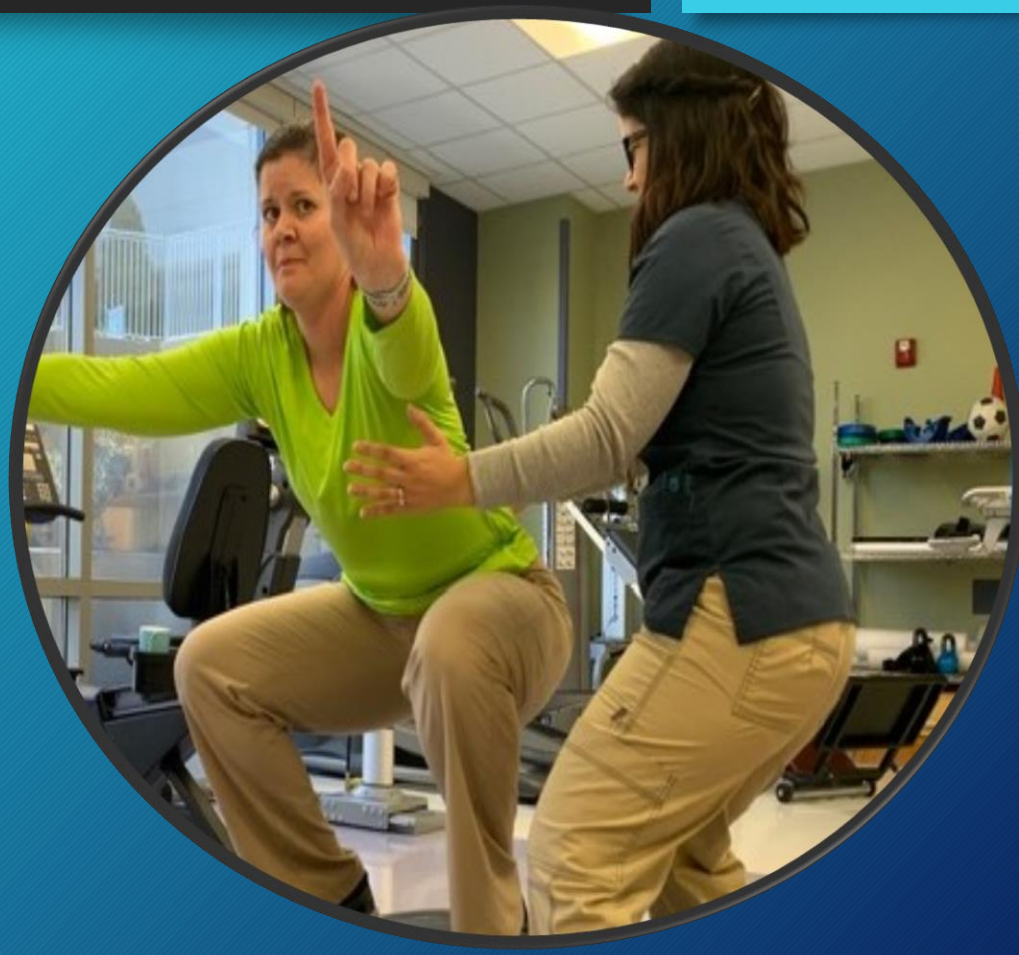
SIS causes dangerous swelling and bleeding that can cause death or permanent disability.

Diagnosis

MRI Scans and CT Scans are the most effective methods used to detect SIS.



When is therapy needed?




5th
International
Consensus
Conference on
Concussion
in Sport
FIFA
FEI
Welcome to Berlin
5th International Consensus Conference on Concussion in Sport
27-28 October 2016 - Berlin, Germany

“R’s” of Concussion Management

- Recognize
- Remove
- Re-Evaluate
- Rest??
- REHAB
- Refer
- Return
- Residual Effect
- Risk Reduction

JAMA Pediatrics | Original Investigation

Early Subthreshold Aerobic Exercise for Sport-Related Concussion
A Randomized Clinical Trial

John J. Leddy, MD; Mohammad N. Haider, MD; Michael J. Ellis, MD; Rebekah Mannix, MD; Scott R. Darling, MD; Michael S. Freitas, MD; Heidi N. Suffoletto, MD; Jeff Leiter, PhD; Dean M. Cordingley, MSc; Barry Willer, PhD

IMPORTANCE Sport-related concussion (SRC) is a significant public health problem without an effective treatment.

OBJECTIVE To assess the effectiveness of subsymptom threshold aerobic exercise vs a placebo-like stretching program prescribed to adolescents in the acute phase of recovery from SRC.

DESIGN, SETTING, AND PARTICIPANTS This multicenter prospective randomized clinical trial was conducted at university concussion centers. Male and female adolescent athletes (age 13-18 years) presenting within 10 days of SRC were randomly assigned to aerobic exercise

+ Editorial
+ Supplemer

Rest (Berlin statement)

"After a brief period of rest during the acute phase **(24-48hours)** after injury, patients can be encouraged to become gradually and progressively more active while staying below their cognitive and physical symptom-exacerbation thresholds"

Use of Graded Exercise Testing in Concussion and Return-to-Activity Management

John J. Leddy, MD, FACSM FACP[1] and Barry Willer, PhD[2]

Abstract

Concussion is a physiologic brain injury that produces systemic and cognitive symptoms. The metabolic and physiologic changes of concussion result in altered autonomic function and control of cerebral blood flow. Evaluation and treatment approaches based upon the physiology of concussion may therefore add a new dimension to concussion care. In this article, we discuss the use of a standard treadmill test, the Buffalo Concussion Treadmill Test (BCTT), in acute concussion and in postconcussion syndrome (PCS). The BCTT has been shown to

patient is involved in some limited exercise and cognitive activity after concussion but is worse when the activity is either too great or too little.

Concussion has been thought traditionally to represent primarily a disturbance of cognition, and there is a considerable body of research describing and promoting cognitive testing as

Rehab

*"Closely monitored active rehab using **Sub-Symptom** threshold exercise"*

Rehab

- Neck pain (70%)
- BPPV (15-20%)
- Balance Problems
- Neurocognitive Problems (SLP)
- Neuro-Psych Problems

Guidelines for Clearance/RTP

- No definitive tests
- Response to therapy
- Response to controlled tasks
- Step-Wise Program
- Difficult to determine in 10-15 min office visit

What does BERLIN say?

- *Neurological examination* (including balance testing) is normal.
- Concussion-related *symptom scores, at rest and with match-intensity exercise, have returned to baseline levels*.
- *Cognitive testing* (computerised and/or pencil-and-paper) has *returned to baseline* or age-appropriate norms.

Let’s Review

- Rest: 48 hrs
- Sub-symptom exercise/rehab- Closely monitored
- Differentiate Neck, BPPV, Brain injury symptoms
- Vestibular Rehab and balance training
- SLP, Behavioral therapies
- Return to activity testing