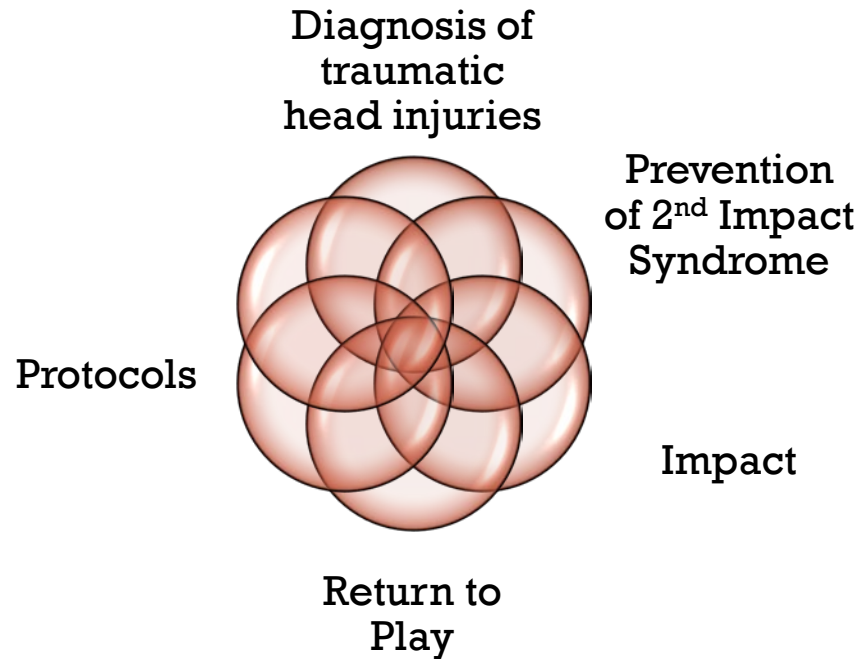


Concussion Management Program



What is a Concussion of the Brain

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graph TD; A[What is a Concussion of the Brain] --> B[A traumatic injury to the brain as a result of a violent blow]; A --> C[It can cause immediate, usually temporary impairment of brain function: thinking, vision, equilibrium and consciousness.]
```

A traumatic injury to the brain as a result of a violent blow

It can cause immediate, usually temporary impairment of brain function: thinking, vision, equilibrium and consciousness.

What are the Causes of a Concussion

```
graph TD; A[What are the Causes of a Concussion] --- B[A concussion occurs from impact when the head accelerates rapidly and then is stopped, or]; A --- C[Impact to the brain can occur when the head slams into a hard surface. The skull is stopped by the hard surface but the brain, floating in cerebrospinal fluid (CSF), can still move and is shaken.]
```

A concussion occurs from impact when the head accelerates rapidly and then is stopped, or

Impact to the brain can occur when the head slams into a hard surface. The skull is stopped by the hard surface but the brain, floating in cerebrospinal fluid (CSF), can still move and is *shaken*.

**Risk of Future
Concussions**

**Moreover, after
several
concussions, it
takes less of a
blow to cause the
injury and
requires more
time to recover.**

**A person who has
had a concussion
is as much as four
times (4x) more
likely to sustain a
second one.**

What is Second Impact Syndrome (2nd Impact)

A person having a second concussion before their brain has recovered from the first can lead to what is called **Second Impact Syndrome (SIS)**.

In **SIS**, massive swelling of the brain causes pressure inside the skull that chokes off the flow of fresh blood and may lead to irreparable brain damage or death.



2nd Impact Syndrome

Can occur

**in athletes
under the age of
23 years...**

**while the brain
is still forming,
as it is
especially
vulnerable at
this time , and...**

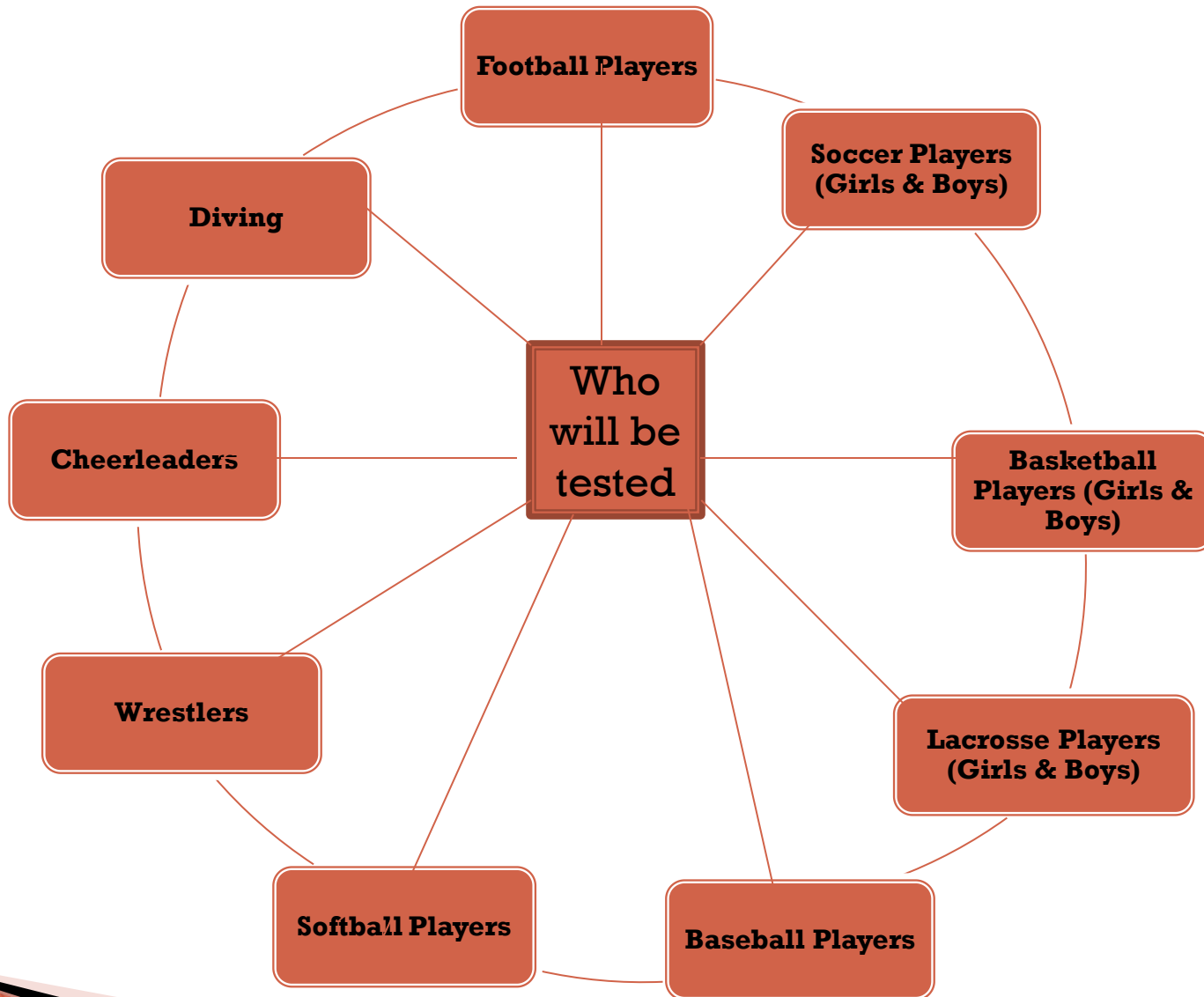
**when the injury
from a previous
concussion has
not yet fully
healed.**

What is ImPACT Testing?

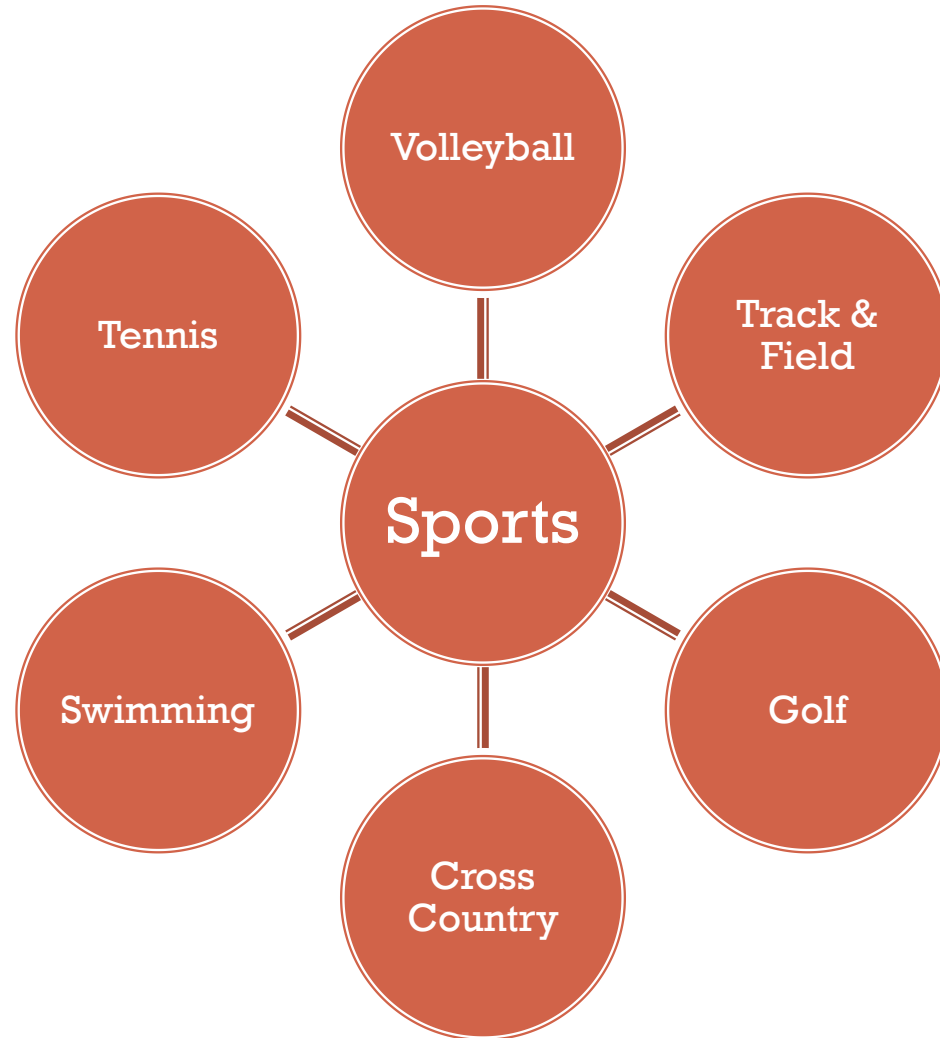
A computer- and web-based diagnostic assessment tool designed to ..

- Establish baseline (pre-injury) brain function for student-athletes in contact sports
- Quickly and effectively assess the extent of suspected head injuries
- Compare baseline and post-injury assessment data to determine the extent of injuries
- Determine when it is safe to return student-athletes to active status

Participation in the following sports require signed consent for ImPact testing

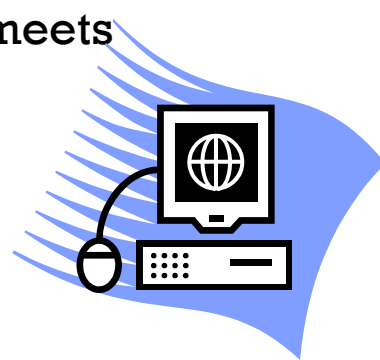


Testing in the following sports is optional



What is needed

- A. Parental Consent required for..
- Cognitive Testing and Release of Information(only to indicated primary care physician, neurologist, or other treating physician)
- B. Baseline Testing
- Computer-Based
 - Testing occurs during pre-Season practice
 - May be performed by Athletic Trainers
 - Data confidentially saved to ImPACT website
 - Testing 1-2 times per student over 4 years
- C. Post – Injury Testing
- Post-injury testing is recommended within 48-72 hours after injury.
 - A Post-injury Clinical Report is generated describing cognitive function.
- D. Evaluation of Post-injury Test Data
- ATC's compare Baseline and Post-Injury testing data, then determine degree of injury according to established clinical standards.
 - Repeat testing as necessary.
 - Return-to-Play determined when players post-injury data meets established clinical standards.



When is it safe for the concussed athlete to return to play?

- ▶ After showing no symptoms while at rest and after some form of physical activity, and
- ▶ After normal neuropsychological testing results.

It was specifically recommended that each step should be separated by 24 hours. If the player has any relapse of concussive symptoms it will lead to the athlete dropping back to the previous level. In other words, if an athlete is asymptomatic at rest and develops a headache following light aerobic exercise, the athlete should return to complete rest.

What will be Done?

- ▶ Player will not return to play in current game



- ▶ Player will be removed from competition following observation or reporting of signs/symptoms of concussion

Medical evaluation following injury.

- **To rule out more serious intracranial pathology.**
- **Neuropsychological testing considered “cornerstone” of proper post-injury assessment.**

Stepwise return to play.

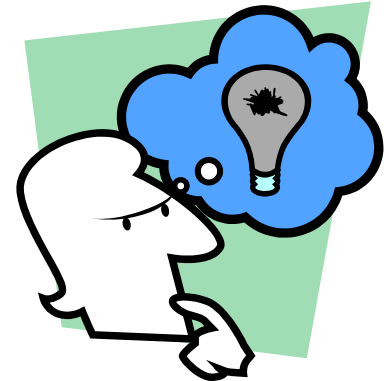
- **No physical activity: rest until showing no symptoms.**
- **Light aerobic exercise.**
- **Sport-specific training.**
- **Non-contact drills.**
- **Full-contact drills.**
- **Game play**

Recovery from a Concussion

1. It takes considerable time and energy for the brain to correct this chemical imbalance.
2. Changes in the brain start to resolve immediately, but the recovery time seems to vary.
3. Recovery time depends not only on the severity of the blow, but also on how many previous concussions a person has had.

How can you Help!

By looking for and recognizing the signs of a possible concussion



Objective signs to look for.....

- 1. Player appears dazed**
- 2. Player has vacant facial expression**
- 3. Confusion about their assignment**
- 4. Player forgets plays**
- 5. Disorientation to game or score**
- 6. Inappropriate emotional reaction**
- 7. Player displays clumsiness**
- 8. Player is slow to answer questions**
- 9. Loss of consciousness (LOC)**

Signs reported by Athlete...

1. Headache
2. Nausea
3. Balance problems or dizziness
4. Double or fuzzy vision
5. Sensitivity to light or noise
6. Feeling slowed down
7. Feeling "foggy" or "not sharp"
8. Change in sleep pattern
9. Concentration or memory problems
10. Irritability
11. Sadness
12. Feeling more emotional



Documents and Records

Private

- ▶ All documents and records related to ImPACT Testing and the student-athlete's health in general will remain **CONFIDENTIAL** in accordance with the Health Insurance Portability and Accountability Act (HIPAA)

Private

Return to Play Clearance

The athlete must meet all of the following criteria in order to progress to activity:



- ▶ No symptoms at rest
- ▶ No symptoms with exertion (incl. Mental and Physical)
- ▶ Within normal range of baseline on post-injury ImPACT Test
- ▶ Written clearance from primary care physician or specialist (NOT an emergency room Dr.)

Contacts



Athletic Trainer: _____



Activities Coordinator: _____



Weekends / Holidays:

• www. _____

Questions?