The Role of the Speech Language Pathologist in Concussion Education

by Nancy Manasse-Cohick, Ph.D., CCC-SLP
California State University, Los Angeles

with contributions from Kathy Shapley, Ph.D., CCC-SLP
University of Arkansas at Little Rock

ASHA 2011, San Diego, CA
Concussion Statistics

• 3.8 million sports and recreational related concussions occur annually.\textsuperscript{1,2}
• Most concussions are sustained by 5-18 y/o\textsuperscript{1}
• The sport with the most reported concussions...
Concussion Laws

• 1st state to enact law: Washington

• Most recent state to enact law: California
  – Governor Brown signed into Law October 4, 2011
  – Goes into effect January 1, 2012
Why educate athletes, parents, coaches?

• Post-concussion syndrome
  — headache, dizziness, fatigue, impaired memory and concentration, anxiety, and even sensitivity to noise

• Second Impact Syndrome
  — May occur if an athlete sustains a second concussion before the brain has healed from an initial concussion
Pre-test Survey

- Rosenbaum Concussion Knowledge and Attitudes Survey—Student Version (RoCKAS-ST)

- Three scales
  - Concussion Knowledge Index (CKI), Concussion Attitude Index (CAI), Validity Scale (VS)

- R_________, R_________, and R_________
Concussion Education for the High School Athlete

Presented by:
Nancy Manasse-Cohick, Ph.D.
Associate Professor, COMD
CSU, Los Angeles

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What is a Concussion?

• Damage to the brain that cannot be seen
• It results from brain movement inside the skull
• All concussions change the way the brain functions
Causes of Concussion

• You **DO NOT** have to:
  – Hit your head...
  – Get “knocked out”...
  – Be hit on the head... to suffer a concussion

• A jolt to your body (like a tackle) that causes your body to move fast and stop fast

• Hitting another object (like the ground or another player)

• If you have one concussion you are more likely to have a second concussion

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Symptoms of Concussion

• Headache
• Sensitivity to light
• Difficulty remembering
• Drowsiness
• Not recognizing others

• Feeling in a fog
• Feeling slowed down
• Difficulty concentrating
• Dizziness
• Forget who you are

Symptoms from a single concussion are usually gone after 10 days, BUT could last for several weeks or months

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If You Think You Have a Concussion...

1. RECOGNIZE
2. REPORT
3. REST
If You Think You Have a Concussion…

1. RECOGNIZE
2. REPORT
3. REST
RECOGNIZE

Recognize…

- The symptoms of concussion
- If you have any symptoms- even if you’re not sure
- How you FEEL... tired, different
- Symptoms in your teammates
- If your teammates are acting differently
If You Think You Have a Concussion...

1. RECOGNIZE
2. REPORT
3. REST
If You Think You Have a Concussion…

1. RECOGNIZE

2. REPORT

3. REST
REPORT

• Tell your...
  — Coach
REPORT

• Tell your...
  – Coach
  – Athletic Trainer

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Tell your...
- Coach
- Athletic Trainer
- Parents

Mom & Dad, I think I got a concussion at practice today. My head is killing me!
REPORT

• Tell your...
  – Coach
  – Athletic Trainer
  – Parents
  – Teammate
  (Buddy System)

ASAP if you think you suffered a concussion

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REPORT

- Tell your...
  - Coach
  - Athletic Trainer
  - Parents
  - Teammate ("Buddy System")

See a doctor who knows about concussion!

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If You Think You Have a Concussion...

1. RECOGNIZE
2. REPORT
3. REST
If You Think You Have a Concussion...

1. RECOGNIZE
2. REPORT
3. REST
REST
No...
- Driving
- Texting
- Internet use
- TV
- Video games
If You Think You Have a Concussion...

1. RECOGNIZE
2. REPORT
3. REST

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What If I Don’t Report My Symptoms?

• Easy activities will become harder like...
• You will start to forget things like ...
• Difficulty focusing & concentrating in class
• Grades will start slipping
• Behavior may change, emotional disruptions
• Multiple concussions can impact your long-term health and well being
• In rare cases, an athlete can actually die
Have the Right Attitude

• Wear all protective equipment properly
  – Helmets, mouth guards
• Support your teammate if he is removed from the game due to a concussion
• Encourage one another to let the injury heal
If You Think You Have a Concussion…

1. RECOGNIZE
2. REPORT
3. REST
All areas of your life are affected,

NOT JUST FOOTBALL!
Acknowledgements (1/2)

This presentation was developed using information from the following sources:

- Brandon Schultz- Junior Varsity Football Player
  - Developed by the Department of Health and Human Services: Centers for Disease Control
    - [http://www.cdc.gov/concussion/headsup/high_school.html](http://www.cdc.gov/concussion/headsup/high_school.html)

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11/17/11
Acknowledgements (2/2)

• Oregon Center for Applied Sciences, Inc. http://www.orcasinc.com/

• The Center for Disease Control and Human Prevention http://www.cdc.gov/concussion/HeadsUp/youth.html

Results of Educational Training
# Demographic Information

<table>
<thead>
<tr>
<th>Grade</th>
<th>n-count (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>57 (36%)</td>
</tr>
<tr>
<td>Sophomore</td>
<td>48 (30%)</td>
</tr>
<tr>
<td>Junior</td>
<td>29 (18%)</td>
</tr>
<tr>
<td>Senior</td>
<td>14 (9%)</td>
</tr>
<tr>
<td>No response</td>
<td>12 (7%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>n-count (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>132 (83%)</td>
</tr>
<tr>
<td>No response</td>
<td>28 (17%)</td>
</tr>
</tbody>
</table>

Secondary sport: 91 (57%)
Means and Standard Deviations of Pretest and Posttest CKI scores

- Pretest CKI score: 18.18
- Posttest CKI score: 21.29

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Means and Standard Deviations of Pretest and Posttest CAI scores

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### Number of Athletes Correctly Identifying the Three “Rs”

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rs</td>
<td>0 (100%)</td>
<td>89 (73%)</td>
</tr>
</tbody>
</table>

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Sources for Concussion Education

1. Heads Up: Concussion in Youth Sports
   http://www.cdc.gov/concussion/HeadsUp/youth.html

   http://www.cdc.gov/concussion/headsup/high_school.html#4

3. ACTive: Athletic Concussion Training for Coaches
   http://activecoach.orcasinc.com/

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Injury Prevention & Control: Traumatic Brain Injury

Heads Up: Concussion in Youth Sports

Spanish version

It's Better to Miss One Game Than the Whole Season

To help ensure the health and safety of young athletes, CDC developed the Heads Up: Concussion in Youth Sports initiative to offer information about concussions to coaches, parents, and athletes involved in youth sports. The Heads Up initiative provides important information on preventing, recognizing, and responding to a concussion.

Heads Up Tool Kit for Youth Sports

- Activity Report [PDF 214KB]
- See also Heads Up: Concussion in High School Sports.

For additional resources (videos, promotional materials, etc.) and to order free materials, click here

Information for Coaches
- Online Training Course for Youth Sports Fact Sheet [PDF 206KB] Clipboard [PDF 202KB] Poster [PDF 328KB] Quiz [PDF 170KB]

Information for Athletes
- Fact Sheet [PDF 201KB] Poster [PDF 328KB] Quiz [PDF 170KB]

Information for Parents
- Fact Sheet [PDF 205KB] Magnet [PDF 106KB] Quiz [PDF 170KB]

Contact Us:
Centers for Disease Control and Prevention
National Center for Injury Prevention and Control (NCIPC)
4770 Buford Hwy, NE
MS F-41
Atlanta, GA 30341-3717

800-CDC-INFO
(800) 232-4636
TTY: (888) 232-6348

New Hours of Operation:
Smonday-Friday,
Closed Holidays
Injury Prevention & Control: Traumatic Brain Injury

CDC's Injury Center > Traumatic Brain Injury

Heads Up Online Training Course

Get prepared for the new season in less than 30 minutes

Heads Up: Concussion in Youth Sports is a free, online course available to coaches, parents, and others helping to keep athletes safe from concussion. It features interviews with leading experts, dynamic graphics and interactive exercises, and compelling storytelling to help you recognize a concussion and know how to respond if you think that your athlete might have a concussion. Once you complete the training and quiz, you can print out a certificate, making it easy to show your league or school you are ready for the season.

What You Will Learn

This course will help you:
- Understand a concussion and the potential consequences of this injury,
- Recognize concussion signs and symptoms and how to respond,
- Learn about steps for returning to activity (play and school) after a concussion, and
- Focus on prevention and preparedness to help keep athletes safe season-to-season.

We can help athletes stay active and healthy by knowing the facts about concussion and when it is safe for athletes to return to play.

Take the Training >>

Cole's Story: CDC Heads Up! Concussion Training Saved My Life!

Read how CDC's online coaches' training helped a coach to recognize and respond to concussion in a young athlete.

Download the Course Script and Quiz:
THE FACTS

- A concussion is a brain injury.
- All concussions are serious.
- Concussions can occur without loss of consciousness.
- Concussions can occur in any sport.
- Recognition and proper management of concussions when they first occur can help prevent further injury or even death.

WHAT IS A CONCUSSION?

A concussion is an injury that changes how the cells in the brain normally work. A concussion is caused by a blow to the head or body that causes the brain to move rapidly inside the skull. Even a “ding,” “jarring your bell ringing,” or what seems to be a mild bump or blow to the head can be serious. Concussions can also result from a fall or from players colliding with each other or with obstacles, such as a goalpost.

The potential for concussions is greatest in athletic environments where collisions are common. Concussions can occur, however, in any organized or unorganized sport or recreational activity. As many as 3.8 million sports- and recreation-related concussions occur in the United States each year.

RECOGNIZING A POSSIBLE CONCUSSION

To help recognize a concussion, you should watch for the following two things among your athletes:
1. A forceful blow to the head or body that results in rapid movement of the head.
2. Any change in the athlete’s behavior, thinking, or physical functioning. (See the signs and symptoms of concussion listed on the next page.)

It’s better to miss one game than the whole season.
### HEADS UP
**CONCUSSION IN YOUTH SPORTS**

#### SIGN AND SYMPTOMS

<table>
<thead>
<tr>
<th>SIGNS OBSERVED BY COACHING STAFF</th>
<th>SYMPTOMS REPORTED BY ATHLETE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appears dazed or stunned</td>
<td>Headache or &quot;pressure&quot; in head</td>
</tr>
<tr>
<td>Is confused about assignments or position</td>
<td>Nausea or vomiting</td>
</tr>
<tr>
<td>Forgets sports plays</td>
<td>Balance problems or dizziness</td>
</tr>
<tr>
<td>Is unsure of game, score, or opponent</td>
<td>Double or blurry vision</td>
</tr>
<tr>
<td>Moves clumsily</td>
<td>Sensitivity to light</td>
</tr>
<tr>
<td>Answers questions slowly</td>
<td>Sensitivity to noise</td>
</tr>
<tr>
<td>Loses consciousness (even briefly)</td>
<td>Feeling sluggish, lazy, foggy, or groggy</td>
</tr>
<tr>
<td>Shows behavior or personality changes</td>
<td>Concentration or memory problems</td>
</tr>
<tr>
<td>Can’t recall events prior to hit or fall</td>
<td>Confusion</td>
</tr>
<tr>
<td>Can’t recall events after hit or fall</td>
<td>Does not &quot;feel right&quot;</td>
</tr>
</tbody>
</table>

(Adapted from Lovett et al, 2001)

Athletes who experience any of these signs or symptoms after a bump or blow to the head should be kept from play until given permission to return to play by a health care professional with experience in evaluating for concussion. Signs and symptoms of concussion can last from several minutes to days, weeks, months, or even longer in some cases.

Remember, you can’t see a concussion and some athletes may not experience any of these signs or symptoms for hours or days after the injury. If you have any suspicion that your athlete has a concussion, you should keep the athlete out of the game or practice.

#### PREVENTION AND PREPARATION

As a coach, you can play a key role in preventing concussions and responding to them properly when they occur. Here are some steps you can take to ensure the best outcome for your athletes and the team:

- Educate athletes and parents about concussion. Talk with athletes and their parents about the dangers and potential long-term consequences of concussion. For more information on long-term effects of concussion, view the following online video clip: [http://www.cdc.gov/nidcpbt/Coaches_Tool_Kits.html#video](http://www.cdc.gov/nidcpbt/Coaches_Tool_Kits.html#video).

Explain your concerns about concussion and your expectations of safe play to athletes, parents, and assistant coaches. Pass on the concussion fact sheets for athletes and for parents as the beginning of the season and again if a concussion occurs.

- Insist that safety comes first.
  - Teach athletes safe playing techniques and encourage them to follow the rules of play.
  - Encourage athletes to practice good sportsmanship at all times.
  - Make sure athletes wear the right protective equipment for their activity (such as helmets, padding, shin guards, and eye and mouth guards). Protective equipment should fit properly, be well maintained, and be worn consistently and correctly.
  - Review the athlete fact sheet with your team to help them recognize the signs and symptoms of a concussion.

Check with your youth sports league or administrator about concussion policies. Concussion policy statements can be developed to include the league’s commitment to safety, a brief description of concussion, and information on when athletes can safely return to play following a concussion (i.e., an athlete with known or suspected concussion should be kept from play until evaluated and given permission to return by a health care professional). Parents and athletes should sign the concussion policy statement at the beginning of the season.

- Teach athletes and parents that it’s not smart to play with a concussion.
  - Sometimes players and parents wrongly believe that it shows strength and courage to play injured. Discourage others from pressuring injured athletes to play. Don’t let athletes persuade you that they’re “just fine” after they have sustained any bump or blow to the head. Ask if players have ever had a concussion.

- Prevent long-term problems. A repeat concussion that occurs before the brain recovers from the first—usually within a short period of time (hours, days, or weeks)—can slow recovery or increase the likelihood of having long-term problems. In rare cases, repeat concussions can result in brain swelling, permanent brain damage, and even death. This more serious condition is called second impact syndrome. Keep athletes with known or suspected concussion from play until they have been evaluated and given permission to return to play by a health care professional with experience in evaluating for concussion. Remind your athletes: “It’s better to miss one game than the whole season.”

(Adapted from CDC, 2011)
HEADS UP
CONCUSSION IN YOUTH SPORTS

A Fact Sheet for 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!"

WHAT ARE THE SYMPTOMS OF A CONCUSSION?
• Headache or "pressures" in head.
• Nausea or vomiting.
• Balance problems or dizziness.
• Dizziness or blurry vision.
• Reckless by light.
• Soreness by noise.
• Feeling sick, dizzy, dizzy, or dizzy.
• Difficulty seeing.
• Memory problems.
• Confusion.
• Does not "feel right!"

WHAT SHOULD I DO IF I THINK I HAVE A CONCUSSION?
• Tell your coaches and your parents.
• Never ignore a bump or blow to the head even if you feel fine.
• Ask your coach if any of your teammates might have a concussion.
• Get a medical check-up.
• A doctor or health care professional can tell you if you have a concussion and when you are OK to return to play.
• Give yourself time to get better.
• If you have had a concussion, your brain needs time to heal.
• While your brain is still healing, you are more likely to have a second concussion.
• Second or later concussions can cause damage to your brain.
• It is important to rest until you are approved to return to play.
• A doctor or health care professional to return to play.

HOW CAN I PREVENT A CONCUSSION?
Every sport is different, but there are steps you can take to protect yourself.
• Follow your coach’s rules for safety and the rules of the sport.
• Practice good sportsmanship at all times.
• Use the proper equipment, including protective equipment such as helmets, padding, shin guards, and eye and mouth guards.


It’s better to miss one game than the whole season.
A QUIZ FOR COACHES, ATHLETES, AND PARENTS

Review the “Heads Up: Concussion in Youth Sports” materials and test your knowledge of concussion.

Mark each of the following statements as True (T) or False (F)

1. A concussion is a brain injury.
2. Concussions can occur in any organized or unorganized recreational sport or activity.
3. You can’t see a concussion and some athletes may not experience and/or report symptoms until hours or days after the injury.
4. Following a coach’s rules for safety and the rules of the sport, practicing good sportsmanship at all times, and using the proper sports equipment are all ways that athletes can prevent a concussion.
5. Concussions can be caused by a fall or by a bump or blow to the head or body.
6. Concussion can happen even if the athlete hasn’t been knocked out or lost consciousness.
7. Nausea, headaches, sensitivity to light or noise, and difficulty concentrating are some of the symptoms of a concussion.
8. Athletes who have a concussion should not return to play until they are symptom-free and have received approval from a doctor or health care professional.
9. A repeat concussion that occurs before the brain recovers from the first can slow recovery or increase the likelihood of having long-term problems.

ANSWER KEY: T T T T F T T T T

It’s better to miss one game than the whole season.

For more information and other additional materials, visit

www.cdc.gov/ConcussionInYouthSports
CIF Bylaw 513
A student-athlete who is suspected of sustaining a concussion or head injury in a practice or game shall be removed from competition at that time for the remainder of the day. A student-athlete who has been removed from play may not return to play until the athlete is evaluated by a licensed health care provider trained in the evaluation and management of concussions and receives written clearance to return to play from that health care provider.

Coaches:
- Shall immediately remove from practice or game competition any athlete who is suspected of sustaining a concussion or head injury and remain out of practice or play for the rest of the day.
- Shall not allow an athlete who has been removed from play because of a suspected concussion/brain injury to return to play until the athlete has received written clearance from a licensed health care provider trained in the evaluation and management of brain injuries.
- The State CIF Sports Medicine Committee strongly recommends that schools use the Acute Concussion Evaluation (ACE) form for the doctors to complete for return to play and a copy can be accessed and downloaded from the State CIF at http://www.cifstate.org/health_safety/concussion/school.html
Heads Up to Schools:
KNOW YOUR CONCUSSION ABCs

A Fact Sheet for Teachers, Counselors, and School Professionals

What is a concussion?

A concussion is a type of brain injury that changes the way the brain normally works. A concussion is caused by a bump, blow, or jolt to the head. Concussions can also occur from a fall or blow to the body that causes the head and brain to move rapidly back and forth. Even what seems to be a mild bump to the head can be serious.

What are the symptoms of a concussion?

Symptoms can include:
- Headache
- Nausea or vomiting
- Dizziness or unsteadiness
- Fever or chills
- Sensitivity to light or sound
- Blurred vision
- Slurred speech
- Inability to concentrate
- Fatigue
- Memory loss
- Mood swings
- Irritability

What should I do if someone has a concussion?

1. Remove the person from the activity immediately.
2. Keep the person calm and quiet.
3. Do not move the person's head or neck unless they are in immediate danger.
4. Check for any open wounds or bleeding.
5. Call for emergency medical help if needed.
6. Do not give the person any food or drink.
7. Monitor the person for signs of worsening symptoms.

The Facts:

- All concussions are serious.
- Most concussions occur without loss of consciousness.
- Recognition and proper response to concussions when they first occur can help aid recovery and prevent further injury, or even death.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

CDC
Concussion Signs and Symptoms

Checklist

Student's Name __________________________ Student's Grade ______ Date/Time of Injury: ____________

Where and how injury occurred: (Be sure to include cause and focus of the fall or blow to the head)

Description of injury: (Be sure to include information about any loss of consciousness and if there were, memory loss, or seizures following the injury, or previous concussions, falls, or the location or Timing (on the basis of the head)

Directions:

Use this checklist to monitor students who come to your office with a head injury. Students should be monitored for at least 4 hours after a bump, blow, or jolt to the head should be referred to a healthcare professional with experience in evaluating for concussion. For those instances when a parent is coming to take the student to a healthcare professional, observe the student for any new or worsening symptoms right before the interview. Send a copy of this checklist with the student for the healthcare professional to review.

Observed Signs

<table>
<thead>
<tr>
<th>0 Minutes</th>
<th>15 Minutes</th>
<th>30 Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appears dazed or slow to respond</td>
<td>Confused about events</td>
<td>Confused about events</td>
</tr>
<tr>
<td>Names spontaneously</td>
<td>Names spontaneously</td>
<td>Names spontaneously</td>
</tr>
<tr>
<td>Answers questions slowly</td>
<td>Answers questions slowly</td>
<td>Answers questions slowly</td>
</tr>
<tr>
<td>Can't recall events prior to the hit, bump, or fall</td>
<td>Can't recall events prior to the hit, bump, or fall</td>
<td>Can't recall events prior to the hit, bump, or fall</td>
</tr>
<tr>
<td>Loss of consciousness (even briefly)</td>
<td>Loss of consciousness (even briefly)</td>
<td>Loss of consciousness (even briefly)</td>
</tr>
<tr>
<td>Changes in behavior or personality changes</td>
<td>Changes in behavior or personality changes</td>
<td>Changes in behavior or personality changes</td>
</tr>
<tr>
<td>Forgets class schedule or assignments</td>
<td>Forgets class schedule or assignments</td>
<td>Forgets class schedule or assignments</td>
</tr>
</tbody>
</table>

Physical Symptoms

Headache or pressure in head
Nausea or vomiting
Balance problems or dizziness
Frustration or feeling tired
Difficulty or double vision
Sensitivity to light
Speech or communication difficulty
Timeouts or being bossy
Does not feel right

Cognitive Symptoms

Difficulty thinking clearly
Difficulty concentrating
Difficulty remembering
Feeling more slowed down
Feeling5 things, happy, or grumpy

Emotional Symptoms

Tense
SAD
Mood swings

To download this checklist in PDF, please visit: www.cdc.gov/concussion. For information or to request a hard copy of this checklist, email: concussion@cdc.gov.

--- More ---
Danger Signs:
Be alert for symptoms that worsen over time. The student should be seen in an emergency department right away if it has:

☐ One pupil (the black part in the middle of the eye) larger than the other
☐ One pupil cannot be awakened
☐ A headache that gets worse and does not go away
☐ Weakness, numbness, or decreased coordination
☐ Repeated vomiting or nausea
☐ Slurred speech
☐ Convulsions or seizures
☐ Difficulty recognizing people or places
☐ Increasing confusion, restlessness, or agitation
☐ Unusual behavior
☐ Loss of consciousness (even a brief loss of consciousness should be taken seriously)

Additional Information About This Checklist:
This checklist is also useful if a student appears to have sustained a head injury outside of school or on a previous school day. In such cases, be sure to ask the student about possible sleep symptoms. Drowsiness, sleeping more or less than usual, or difficulty falling asleep may indicate a concussion.

To maintain confidentiality and ensure privacy, this checklist is intended only for use by appropriate school professionals, health care professionals, and the student’s parent(s) or guardian(s).

For a tear-off pad with additional copies of this form, or for more information on concussions, visit www.cdc.gov/concussion.
As a coach, you play a critical role in reducing the risks associated with concussion in young athletes. ACTive (Athletic Concussion Training using Interactive Video Education) is a free training that provides the information you need to keep players safe.

The Oregon Center for Applied Science, with funding from the National Institutes of Health, recently conducted a clinical trial proving that coaches who view the ACTive program:

- Have significantly greater knowledge of concussion symptoms.
- Have increased confidence in making decisions about concussion management.

“Some of the most respected sports concussion researchers across the country helped to develop the ACTive training program. It is an excellent resource—it explains clearly what coaches can do to prevent and manage sports concussion in straightforward, practical terms.”

Micky Collins, PhD, nationally known sports concussion researcher and clinician, co-developer of the ImPACT program.
iphone Applications

Free

1. Concussion Recognition & Response- coach and parent version
2. ImCAT: the ImPACT Concussion Awareness Tool
3. SCAT2- Sports Concussion Assessment Tool
References


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References


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