



## WHAT IS A CONCUSSION?

A concussion is a disruption in the normal functioning of the brain as a result of a direct or indirect forceful blow to the head. This disturbance of brain function is typically not detected with a CT scan or MRI, but can result in physical, cognitive, emotional and/or sleep related symptoms. Concussions often do not involve a loss of

consciousness. Duration of symptoms is highly variable and may last from several minutes to days, weeks, months, or even longer in some cases.

- The number of estimated sport related concussion cases in the U.S. ranges from 1.6 - 3.8 million each year.
- Reports indicate that 10% of sport related concussions are brought to the emergency room. The remaining 90% of concussions are not reported.
- Centers for Disease Control and Prevention notes 85,000 concussions/year result from skateboarding.
- Senate Bill 771/House Bill 858 was signed into law on May, 19 2011. This law states that all elementary and secondary school athletes in the state of Maryland comply with the following:
  - Before participating in activity, a student's parent or guardian must sign a concussion information form.
  - A student must be removed from play if they are suspected of sustaining a concussion and may not return until cleared, in writing, by a health care professional.



## COMPREHENSIVE SERVICES OFFERED AT TOWSON SPORTS MEDICINE

1. We offer neurocognitive assessment testing using ImPACT applications and XLNTbrain Sport.
  - ImPACT applications provides trained clinicians with computer based neurocognitive assessment tools and services. The ImPACT program is medically accepted as state of the art best practice for assisting in determining safe return to play decisions following a concussion.
  - XLNTbrain Sport is the first complete concussion management program that delivers everything that athletes, parents, team and league officials, as well as medical professionals need to comply with state laws, while providing the highest concussion care.
2. Comprehensive evaluations and individualized treatment plans including academic accommodations and structuring a safe return to activity. Evaluation and consultation is performed by:

### DR. TERI MCCAMBRIDGE

Board certified in sports medicine and pediatrics and Baltimore Top Doc.

**Towson Orthopaedic Associates and  
Towson Sports Medicine  
Ruxton Professional Building  
8322 Bellona Ave  
Towson, MD 21204**

Please contact Melissa Towns, at 410-337-7900, ext 1231 to make an appointment.

3. A rehabilitation program is available for patients having difficulty returning to activity. When necessary, a referral will be made to one of our physical therapists.
4. The Towson Sports Medicine experts can provide educational lectures to teams, schools and organizations who want further information on concussions.

**For more information, contact the athletic training staff at Towson Sports Medicine, 410-828-4TSM (4876), towsonsportsmedicine.com**

# CONCUSSION MANAGEMENT

A guide to injury prevention and treatment for young athletes



# 1 SUSPECT A HEAD INJURY? POSSIBLE SYMPTOMS INCLUDE:

- Headache
- Dizziness
- Blurry vision
- Disorientation

Once head injury is sustained/  
diagnosed it is important to  
keep a look out for worsening  
symptoms.

- Increased/Unbearable head-  
ache
- Decreased mental status
- Vomiting

If you experience any of these  
symptoms, seek emergency care  
immediately.

# 2 REMOVE FROM ACTIVITY AND NOTIFY KEY PERSONNEL

- Parents
- Athletic Trainer
- School Nurse/  
Physician
- Coach



# 3 REST (PHYSICAL AND MENTAL)

- Decrease computer,  
phone, television and  
tablet use.
- Avoid physical activities  
that reproduce symp-  
toms
- Avoid loud music and  
bright lights
- Get good sleep, take  
naps if tired

In some cases a “Return to Learn”  
plan may be put in place with specific  
accommodations depending on what  
symptoms the athlete is  
experiencing. Accommodations could  
include:

- 1/2 school days that progress to full  
school days
- No tests or quizzes, progress to  
untimed testing and quizzing
- Take breaks when needed.
- Given extra time to finish  
assignments
- Lighting and noise accommodations

Academic Accommodations should be  
developed by a Multidisciplinary Health  
Team including the physician, certified  
athletic trainer, school nurse, guidance  
counselor.

# 6 FINAL POST-CONCUSSION TEST & RETURN TO GAME PLAY/ACTIVITY.

# 5 24 HOURS SYMPTOM FREE

- May begin 5 step return  
to play progression  
once symptom free &  
off of medications.

## Return to Play Progression:

Written clearance by a physician  
is required prior to beginning a  
return to play progression.

**Step 1:** Light aerobic exercise such  
as walking or stationary cycling,  
no resistance training.

**Step 2:** Sport Specific exercise,  
progressive addition of resistance  
training at steps 3 or 4.

**Step 3:** Non-contact training drills

**Step 4:** Full contact training after  
medical clearance.

**Step 5:** Game play

Pay close attention to symptoms.  
If any post concussion symptoms  
occur, the patient should  
drop back to the previous  
asymptomatic level and try to  
progress again after 24 hours.

# 4 MONITOR SYMPTOMS

- Contact healthcare  
provider if symptoms  
increase or persist  
for more than 3 days.