

AACN

Concussion Care-What you need to know.
Jill Kouts BSN, RN, NE-BC
Clinical Nurse Coordinator
Center for Concussion Management

THE UNIVERSITY
OF KANSAS HOSPITAL



THE UNIVERSITY OF KANSAS HOSPITAL
ADVANCING THE POWER OF MEDICINE

1



Concussion are everywhere



THE UNIVERSITY OF KANSAS HOSPITAL
ADVANCING THE POWER OF MEDICINE

2



What is a concussion?

- "Trauma-induced alteration in mental status that may or may not involved loss of consciousness." AAN 1997
- A concussion is a brain injury that is defined as a complex pathophysiological process affecting the brain, induced by biomechanical forces. McCroly et al. 2012
- http://www.youtube.com/watch?v=Sno_0Jd8GuA



THE UNIVERSITY OF KANSAS HOSPITAL
ADVANCING THE POWER OF MEDICINE

3



Myths vs. Facts

- MYTH
- You need to be “knocked out” to suffer from a concussion.
- FACT
- Only 10% of concussions involve loss of consciousness (being “knocked out”).

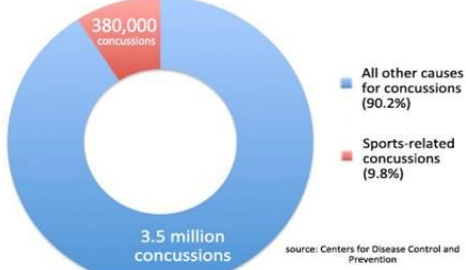


THE UNIVERSITY OF KANSAS HOSPITAL
ADVANCING THE POWER OF MEDICINE

4



Sports as a Cause for Concussions



THE UNIVERSITY OF KANSAS HOSPITAL
ADVANCING THE POWER OF MEDICINE

5



Accidents that cause concussion



THE UNIVERSITY OF KANSAS HOSPITAL
ADVANCING THE POWER OF MEDICINE

6



Concussion in Motion

- [Winter Olympics 2014](#)



MYTH

- Someone with a concussion must have a CT scan or MRI.
- If the CT scan or MRI is normal than the injured athlete does not have a concussion.
- Neuropsychological testing can detect all concussions and predict the recovery time.



FACT

- A concussion occurs on a microscopic level not able to be detected by CT scan or MRI.
- Scans are used to identify skull fractures and bleeding
- No one specific concussion test available.



Signs and Symptoms

- Appears dazed or stunned
- Is confused about events
- Answers questions more slowly than normal
- Repeats questions
- Can't recall events prior to the hit, bump, or fall
- Can't recall events after the hit, bump, or fall
- Loses consciousness (even briefly)
- Shows behavior or personality changes

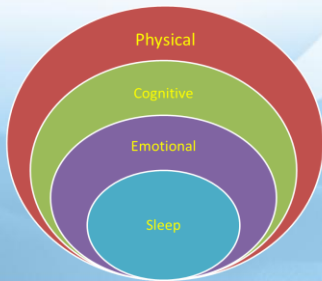


THE UNIVERSITY OF KANSAS HOSPITAL
ADVANCING THE POWER OF MEDICINE

10



Areas affected by concussion



THE UNIVERSITY OF KANSAS HOSPITAL
ADVANCING THE POWER OF MEDICINE

11



COGNITIVE

- Feeling Mentally Foggy
- Difficulty Concentrating
- Difficulty Remembering
- Repeats Questions

- Feeling Mentally Slowed Down
- Fearful of Recent Information
- Confused About Recent Events

PHYSICAL

- Headache
- Nausea/Vomiting
- Balancing Problems
- Numbness/Tingling

- Sensitivity to Light/Noise
- Visual Problems
- Dizziness
- Dazed or Stunned

EMOTIONAL

- Irritability
- Sadness
- More Emotional
- Nervousness

SLEEP

- Drowsiness
- Sleeping Less Than Usual
- Sleeping More Than Usual
- Trouble Falling Asleep



THE UNIVERSITY OF KANSAS HOSPITAL
ADVANCING THE POWER OF MEDICINE

12



Symptoms to send to ED/Danger Signs

- Drowsy or 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
- Cannot recognize people or places
- Becomes increasingly confused, restless, or agitated
- Has unusual behavior
- Loses consciousness (even briefly)
- One pupil larger than the other



Referral Sources

- Dependent on patients issues you may refer to the following areas:
 - Vestibular therapy for ongoing dizziness or vestibular issues
 - Vision therapy for vision related issues outside of vestibular
 - Cervical therapy for cervicogenic headaches
 - PT for muscle related issues that may cause concussion-like symptoms



Education is the key to proper recovery

- **DO** eat nutritious foods
- **DO** drink plenty of water!
- **Avoid** bright lights or loud noise
- Mental & physical rest is **VITAL** to the person's recovery
- The more aggressively the brain is rested, the better the brain will be able to heal.



Concussion Symptoms: How long do they last?

- 85% of concussions fully recover in 3 – 4 weeks
- 10 – 15 % of concussions result in persistent symptoms > 10 days
- Cases of concussion where clinical recovery falls outside of expected window should be managed in a multidisciplinary manner by providers experienced in concussion management



MYTH

- Mouth guards prevent concussions
- Soft headgear for soccer OR lacrosse protects athletes from sustaining a concussion
- The newest football helmets will prevent concussions



FACT

There is no evidence to support concussion prevention with mouth guards, soft headgear or helmets.
However:

- Mouth guards help prevent dental injuries
- Certain devices may decrease the impact intensity or lower the risk

No equipment can completely protect the brain from a concussion.



Stepped Return to School

- Step 1: Cognitive & Physical rest
- Step 2: Gradual re-introduction of cognitive activity
- Step 3: Increase activities while at home
- Step 4: Trial of reduced work / school days with allotted breaks
- Step 5: Resume normal work / school load
- Step 6: Begin return to play/sports/athletic activity

Return to Sports/Play/Activity

- Step 1: light aerobic exercise (no weight lifting) 10 min/day
- Step 2: light aerobic exercise (no weight lifting) 20 min/day
- Step 3: Start light resistance training
- Step 4: Full practice/full activities
- Step 5: Released for competition(Peds)
- Step 6: Continued Observation

Case Example

- High school FB player hit by opposing player's helmet left side of head
- Felt pain at point of impact but kept playing
- Does not recall much of 2nd quarter or half time (post-traumatic amnesia)
- Father observed son kneeling and rubbing head
- Evaluated by Team MD and ATC in 4th quarter
- Marked dizziness, foginess, and HA
- Required cart to get to car but told to go home

Case Example (cont.)

- Parents took son to ER, required assistance
- ER MD evaluation and negative CT scan completed
- Parents insisted on admission for neurology consultation
- Neurologist diagnosed “complex migraine” and informed parents he did not think son had concussion
- Discharged home with clearance to play FB in 5 days
 - Rx for hydrocodone/acetaminophen and phenergan

Case Example (cont.)

- Post-injury day 3
 - Team MD, ATC, and PCP intervened and restricted athlete to no physical activity and half day school
 - Fogginess, dizziness, fatigue, light/noise sensitivity, and mental slowness reported
 - ImPACT done at school by ATC

Case Example (cont.)

- F/U evaluation (DOI: 9/27/13; DOE: 12/16/13)
 - Achieved Return to Learn Step 4 with school accommodating by allowing him to drop two classes and catch up in remaining classes
 - Achieved Return to Play step 3 under ATC guidance
 - Asymptomatic except for residual intermittent left parietal headache which resolves spontaneously
 - F/U with MD scheduled in one month with possible ImPACT test at that time
 - PC 1/29/14 mother reports son doing well

Concussion Overview Video

- http://www.youtube.com/watch?v=_55YmblG9YM&feature=youtu.be



Cognitive and physical brain rest are the key to healing!