Concussion Scenarios and Solutions

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Concussion State of the Union

Malcolm Jenkins admits to playing with concussion

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Many were surprised when Eagles safety Malcolm Jenkins missed practice on Wednesday with a concussion, since he played all of Sunday night’s game against the Cowboys. As it turns out, Jenkins knew that he had a head injury, but he didn’t say anything to anyone.

“I just kind of kept it to myself, which I probably shouldn’t have done,” Jenkins said Thursday, via CSNPhilly.com. “I kind of fought through the game.”

“The medical staff and the coaching staff were kind of upset with me afterward. As players, we’ve all been made aware of the effects of concussions. It’s definitely something I’ll handle differently.”

- Malcolm Jenkins, Philadelphia Eagles
AAP Study

- Questionnaire high school football players
  - Harvard Medical School, Boston Children’s Hospital, Nationwide Children’s Hospital

- 27 Boston area high schools

- About half of those concussed reported it

- Starters reported 50%, non-starters 73%

- “Didn’t want to be pulled from game”

- “It wasn’t a serious injury”

AAP Study

- Questionnaire over 500 parents and coaches
- 40% of coaches, 50% parents would feel comfortable sending player back in before doctor’s ok

“Those who have the privilege to know have the duty to act.”
-Albert Einstein

Case Study #1

- 16 year-old soccer player hit in forehead with ball
- Headache and dizziness 20 minutes
- Sent to physician - Dx: “head contusion, no concussion”
- Accept diagnosis or take her through RTP progression?
“No Concussion” Procedure

• Athlete’s personal physician must contact school physician to discuss and decide
  • *Athlete usually begins school RTP procedure with us in case school doc does not approve*

• School physician must approve “no concussion” dx and altered RTP procedure

• If school physician does not approve, athlete must complete our normal RTP policy
By the Numbers

- 41 concussions in fall
- Average length of symptoms 5.5 days (range 1-30 days)
- 59 post-injury Impact tests
  - 55% passed Impact first attempt
  - 9 athletes had ADHD took average 2 attempts to pass
- 41% (13/32) doctor’s notes inconsistent with our policy
Case Study #2

- 17 year-old football player
- Concussed last game of the season
- Does not follow up or complete RTP progression
- Goes out for wrestling 2 weeks later
How We Handle It

- Notify AD, athletic secretary of all concussions
- List kept to prevent athlete placed on next season roster
Case Study #3

- 17 year-old football player head-to-head contact
- Dizziness 10 minutes, headache & light sensitivity 3 days
- Begins RTP progression once asymptomatic 24 hours on 5th day
- Takes ImPACT test 5 days post injury - scores low
- Progresses fine through RTP progression up thru NC practice
- Impact scores still not up to baseline after 2 more attempts
- Has now been sx free 8 days but still can’t pass ImPACT test
How We Handle It

• Sent back to physician or school physician
• If allowed to play despite failed ImPACT test we require note from physician
• ImPACT override for ADHD, learning disability
ImPACT False Positives Study

• 92 college-aged unconcussed participants took ImPACT baseline - split into two groups

• Group 1 reassessed 1 week later and 2 weeks later
  • 37% had at least 1 impaired composite score at week 1
  • 46% had at least 1 impaired composite score at week 2

• Group 2 reassessed 45 days later and again 5 days after that
  • 22% had at least 1 impaired composite score at 45 days
  • 29% had at least 1 impaired composite score at 50 days

Case Study #4

- 15 year-old football player sustained head to head contact during first few plays of football game
- Developed headache, did not report injury
- Continued playing - sustained multiple hits to head and finished game
- Reports to AT immediately after the game complaining of multiple sx -
  - HA 5/6, Head Pressure 4/6, Feeling in Fog 6/6
  - Slowed Down 5/6, Nausea 2/6 worsened into dry heaves
  - Significant balance issues
Case Study #4

- Immediate referral to hospital if:
  - Decreasing level of consciousness
  - Increasing confusion
  - Increasing irritability
  - Loss of or fluctuating level of consciousness
  - Numbness in the arms or legs
  - Unequal pupil size
  - Repeated vomiting
  - Seizures
  - Slurred speech or inability to speak
  - Worsening headache

Case Study #4

- Immediate referral to hospital if:
  - Any worsening or persistent symptoms
  - Additional symptoms after first eval
  - Vomiting
  - Amnesia
  - LOC, or any decreasing level of consciousness
  - Any pupil irregularity
  - Decreased/irregularity in pulse or respirations
  - Any signs of skull fracture or spinal injury
  - Any doubt by AT

Outcome

- Sent to ER
- Symptomatic for 7 days
- Passed Impact first attempt 12 days post injury
- Went through double-step RTP
  - Steps 1-4 two days each
    - 48 hrs asymptomatic
    - Two days bike
    - Two days running/agilities
    - Two days NC practice
    - 1 day full-contact practice
  - Return to game play
Case Study #5

- 15 year old volleyball player
- Struck in head with ball last week of season
  - Headache, dizziness, light sensitivity
- Doesn’t follow-up for RTP procedure
- Doesn’t play another sport
- Next season - can she play?
Case Study #5

- Must complete RTP no matter how much time passed
- Simple doctor’s note not accepted
- May complete RTP under doctor supervision
Our Policy

- Return to Play
  - Asymptomatic
  - Completion of Zurich RTP progression
  - ImPACT scores within normal limits of baseline
  - Physician may exempt athlete with ADHD, learning disability
Our Policy

Should you treat the athlete with 3 days of symptoms the same as the athlete with 3 weeks of symptoms?

- Double Steps 1-4 if:
  - Witnessed LOC
  - Signs/Sx lasting 7 days or longer
  - Repeat concussion within one calendar year

“For an athlete with a concussion history, the AT should adopt a more conservative RTP strategy.”

- 2014 NATA Position Statement
Case Study #5

• 17 year-old football player sustains concussion from head to head contact

• Symptomatic for 3 days including HA, light sensitivity, diff concentrating

• Sees a Nurse Practitioner for evaluation

• Can you accept this note for RTP?
State Law

- In NJ, only physicians (MD, DO) may provide clearance
- Physician must be “trained in the management of concussion”
Our Policy

“By signing this form the physician is indicating he or she has received such training. A physician (MD, DO) is the only healthcare professional that may sign this form or clear an athlete to begin a return to play progression following a concussion.”
Concussion Litigation

- California - AT found liable for failing to evaluate
- Tennessee - AT found liable for failing to report ongoing symptoms to physician
- NJ - Settled case $2.8 million, lack of AT documentation, communication
- Ohio - AT sued for not following own concussion policy, consensus statement

Top 10 questions you don’t want to be answering in a courtroom

10. Did you have a concussion policy in writing?

9. Was your concussion policy followed/practiced closely? By whom? When? Documented?

8. Is everyone within your “team” aware of the written policy and the specific components and each person’s role explained?

7. What influence did the coach have in the RTP decision?

6. To whom does the team physician and the AT report to?
Top 10 questions you don’t want to be answering in a courtroom

5. How was communication managed between the AT and the doctor?

4. How did you ensure that athlete was “asymptomatic?” Does your documentation prove it?

3. What RTP protocol was used and is it in writing?

2. Specifically, what led you to return the player and is it in writing?

1. Why was there so little documentation?

Guskiewicz, K., et al NATA Annual Meeting 2014, Indianapolis, IN
“You believed a 16 year-old that he was symptom-free?”

“Case against physician who cleared was dismissed”

“Parents should be drawn into the decision-making process”
Evaluation Documentation

- NATA Position Statement
- Injury mechanism
- Initial signs and symptoms
- State of consciousness
- Physical and neurological exam findings
- Patient and parent instructions given
- Physician recommendations
- Return to play progression specifics
- Follow-up evaluations
Who to Tell

- Athlete
- Parent/Guardian
- Coach
- School Nurse
- School Physician?
- Guidance
- Athletic Director
- Athletic Secretary

Email creates a record!
# RTP Documentation

## Concussion Recovery and Graded Exercise Program Log

**Eastern High School**

**C. Christy, ATC License #25MT0055200**

**C. Lowery, ATC License #25MT00174300**

___ Standard Protocol ___ Double Step Protocol

Parent ___ Free Verification Received ________

Physician Clearance Note Received ________

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Signs/Symptoms?</th>
<th>ATC Comments</th>
<th>ATC initials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Step 1: No physical activity, completion of 24 hours asymptomatic</td>
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<tr>
<td></td>
<td>Step 2: Light aerobic exercise, stationary bike or elliptical 10 minutes</td>
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<tr>
<td></td>
<td>Step 3: Sports-specific exercise, 15 minute run, agility ladder</td>
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<tr>
<td></td>
<td>Step 4: Non-contact practice</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>Step 5: Full-contact practice</td>
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</tr>
</tbody>
</table>

**Name:**

**Injury Date:**

**First Asymptomatic Date:**

**ImpACT Test WNL:**

**Cleared for Full Activity Date:**

**Nurse, Coach, AD, ASec, Notified of Full Clearance:**
Confirming Asymptomatic

- Re-eval and document before allowing full clearance
- Asymptomatic parent letter
Best Practices

In accordance with the “Inter-Association Consensus Statement on Best Practices for Sports Medicine Management for Secondary Schools and Colleges,” the school or site-appointed physician, and by extension, the district athletic trainer(s), have the final and unquestionable authority regarding medical clearance and return to play decisions.

Your Responsibility?

- Non-school-related, in-season concussion?
- Non-season-related, out-of-season concussion?
Eastern High School follows the concussion guidelines set forth by Zurich Concussion Consensus Statement and the NJ State Interscholastic Athletic Association as follows, *unless directed otherwise by the school physician or concussion specialist*...

- ImPACT scores must return to within normal limits of baseline (unless school physician, home physician or concussion specialist determine ImPACT test is not to be used due to learning disability or other reason)
Wiggle Room

- If a step falls on a school holiday, weekend or other time in which the athletic trainers are unavailable to supervise, the athlete may complete the activity for that particular step under the parent/guardian’s supervision, at the discretion of the athletic trainers.
Final random thoughts

- Give nurse copies of physician evaluation form
- Postpone baseline test if injured or ill
- Be as consistent as possible
- Concussion conflicts part of the job
In Summary

- Have policies & procedures in place - follow your own!
- Communicate
- Document
- Make sure athlete checks in after each step
- Do a re-eval before return to play
Thank you!