Concussion and Return to Play Guidelines: PBL
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A past AAFP FMX presenter, Dr. Patel practices family medicine and sports medicine in Aurora and Yorkville, IL, and is medical director for Rush-Copley Sports Medicine. His specialty topics include musculoskeletal imaging, concussions, stress fractures, osteoarthritis, joint examinations, pediatric overuse injuries, knee pain, and exercise recommendations, as well as evidence-based medicine. He is a fellow of the American College of Sports Medicine. He says that staying current with medical advances and with evidence-based medicine is the most challenging aspect of family medicine.

Learning Objectives
1. Practice applying new knowledge and skills gained from Concussion and Return to Play Guidelines sessions, through collaborative learning with peers and expert faculty.
2. Identify strategies that foster optimal management of concussion, within the context of professional practice.
3. Formulate an action plan to implement practice changes, aimed at improving patient care.

Associated Sessions
• Concussion and Return to Play Guidelines: The Headaches and Confusions of Concussions
Chief Complaint

- 13 year old female head injury

HPI

- Struck on side of head by volleyball yesterday
- 6/10 headache
- Wasn’t able to return to playing
- Increased headache remainder of school

Polling question

- What past medical history would raise your concern for prolonged concussion symptoms?

Answer

What past medical history would raise your concern for prolonged concussion symptoms?

- Prior concussion(s)
- Anxiety
- Depression
- Migraines

Polling question

What the most important evaluation for concussion, and why?
A. Neurologic,
B. Balance testing,
C. Computer neuropsychologic,
D. Imaging (CT, MRI)
Concussion PE

• Head and Neck (C-spine) exam
• Neuro exam
  – Cranial nerves, reflexes, gait, mental status, strength, sensation, coordination
  – Including cognitive assessment-Memory, concentration, etc.
  – Balance testing


Modified Balance Assessment (BESS)

• 20 sec/position, hands on hips and eyes closed:
  • Double leg stance: feet together,
  • Single leg stance: non-dominant foot (non kicking foot), the hip flexed 30°, knee flexed 45°
  • Tandem Stance: non-dominant foot touching heel of dominant foot


BESS Scoring

• An error when any of the following occur:
  – Hands off iliac crests
  – Opening the eyes
  – Step stumble or fall
  – Abd or flexion of hip >30°
  – Lifting the forefoot /heel off
  – Unable to return to test position >5 sec

Each error is doubled
– (2 errors= score of 4)

• Max error for any single position is 10
• Normal = <6 total

Bess PDF


BSCAT 5:
http://bjsm.bmj.com/content/bjsports/early/2017/04/26/bjsports-2017-097068SCAT5.full.pdf

Child BSCAT:
http://dx.doi.org/10.1136/bjsports-2017-097492childbscat
Balance, coordination tests

- Pronator drift
- Finger to nose

Vestibular Oculomotor Screening (VOMS)

- Smooth Pursuit-
- Saccades (vertical and horizontal)
- Convergence
- Vestibular-Ocular Reflex test
  - Record: headache, dizziness, nausea, fogginess


VOMS-Smooth Pursuit

- Fingertip 3 ft away, 1.5 ft to left and right
- Repeat x 2 total
- Then up and down x 2
- Observe for nystagmus, delays, symptoms


VOMS-Saccades (vertical & horizontal)

- Both fingertips apart, 3 ft away, 1.5 ft to left and right
- Ask pt to look quickly back and forth at fingers. X10
- Then up and down x 2
- Observe for nystagmus, delays, symptoms


VOMS-Convergence

- 14 pt font at arm length, move slowly until seeing double
- Repeat x3
- + if >6cm from nose


VOMS-Vestibular-Ocular Reflex test

- 14 pt font, 3 ft away
- Metronome at 180 beats/min.
- Turn head 20 deg each side, repeat x10
- Then vertical

VOMS

- >2 increase provocation

management

question

- 13 year old female, struck on side of head by volleyball yesterday, 6/10 headache, Increased headache remainder of school,
- What restrictions does she have at home?

question

- 13 year old female, struck on side of head by volleyball yesterday, 6/10 headache, Increased headache remainder of school, today tolerated reading for 20 minutes before headache restarted.
- When can she return to school and any restrictions?

question

- 13 year old female, struck on side of head by volleyball yesterday, 6/10 headache, Increased headache remainder of school, today tolerated reading for 20 minutes before headache restarted.
- When can she return to exercise or sports and any restrictions?
Questions

Thanks!

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Resources

- SCAT 5: http://bjsm.bmj.com/content/bjsports/early/2017/04/26/bjsports-2017-097506SCAT5.full.pdf
- Child SCAT: http://dx.doi.org/10.1136/bjsports-2017-097492childscat5
- CDC: http://www.cdc.gov/headsup/providers/