

Athletic Trainer's role in the Hawaii Concussion Awareness and Management Program

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Hawaii Concussion Awareness & Management Program

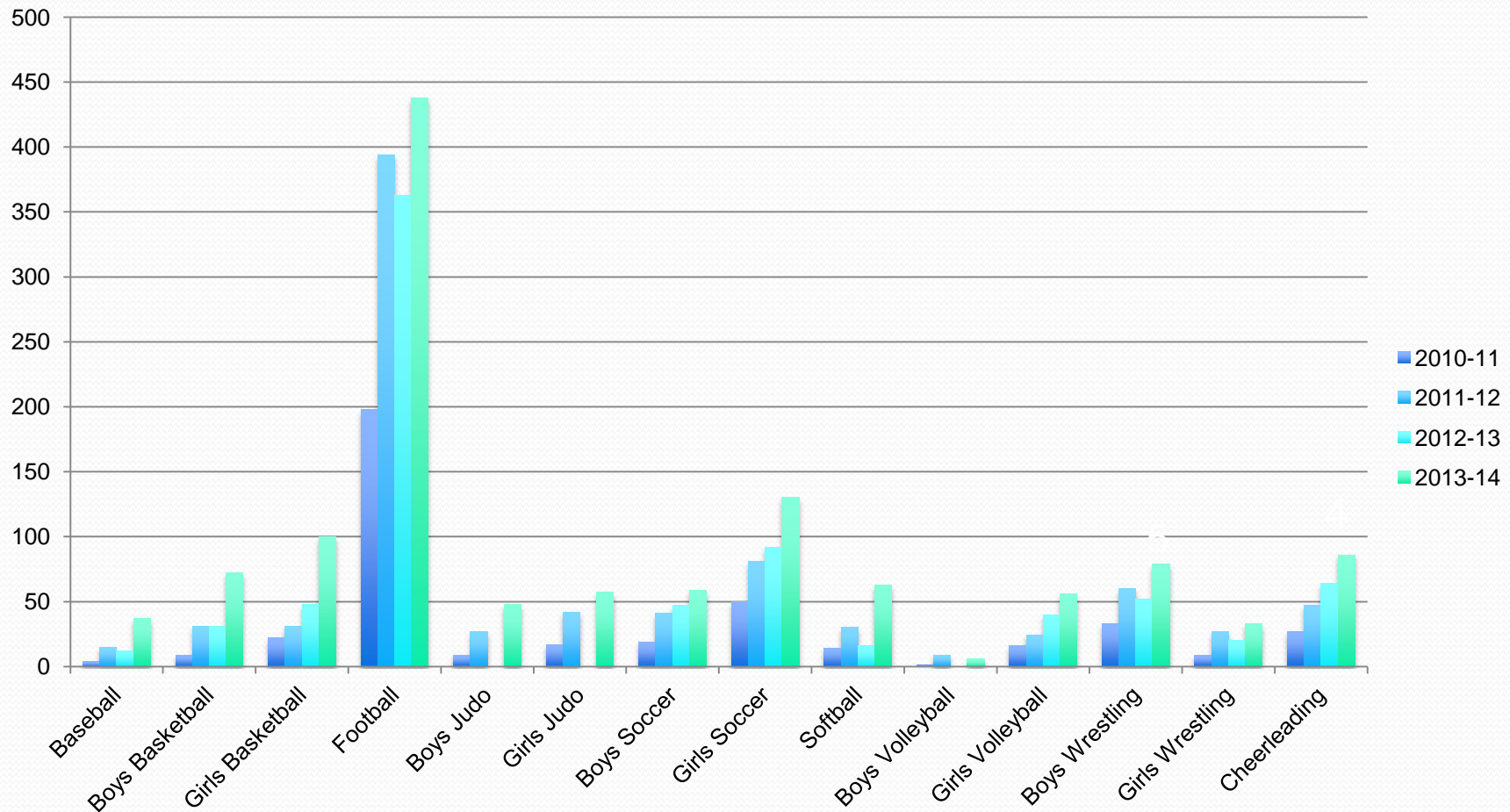
- New Concussion Law, ACT 264, Signed July 12, 2016
 - **Funding for cognitive testing**
- Concussion Law, Act 197, Signed July 2012
 1. Education of parents, students, school staff & administrators & sports officials
 1. **New law includes education to middle school youth athletic activities (11 to under 19 years old)**
 2. Annual training of coaches & athletic trainers
 3. Mandatory removal of students suspected of sustaining a concussion
 4. Need for Physician clearance to return to play
 5. Stepwise return to play supervised by ATC



Concussion Management Program

- State wide program, includes all DOE and private high schools
- This program was designed for the health and safety of all student athletes.

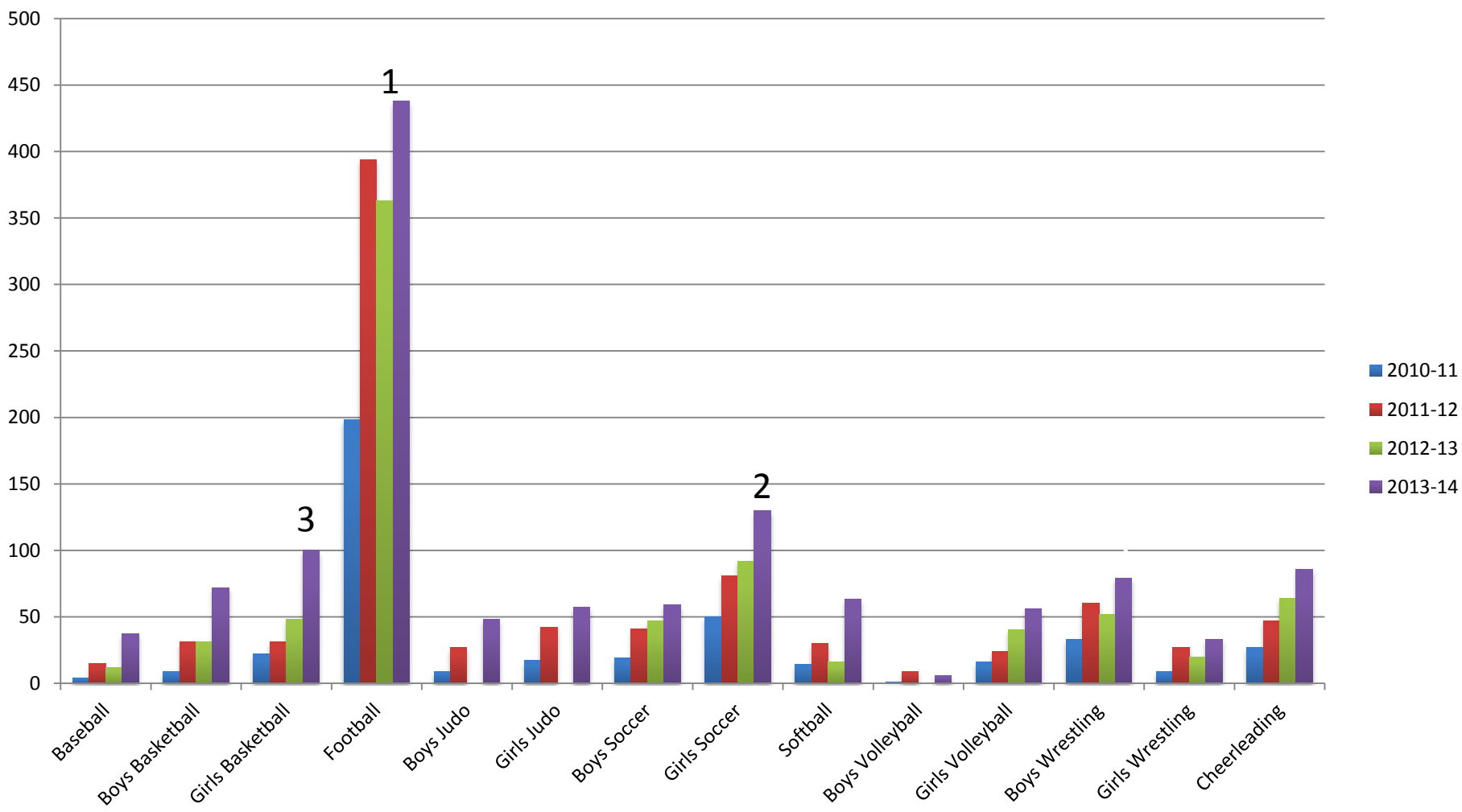
How many concussion do we have in the DOE?



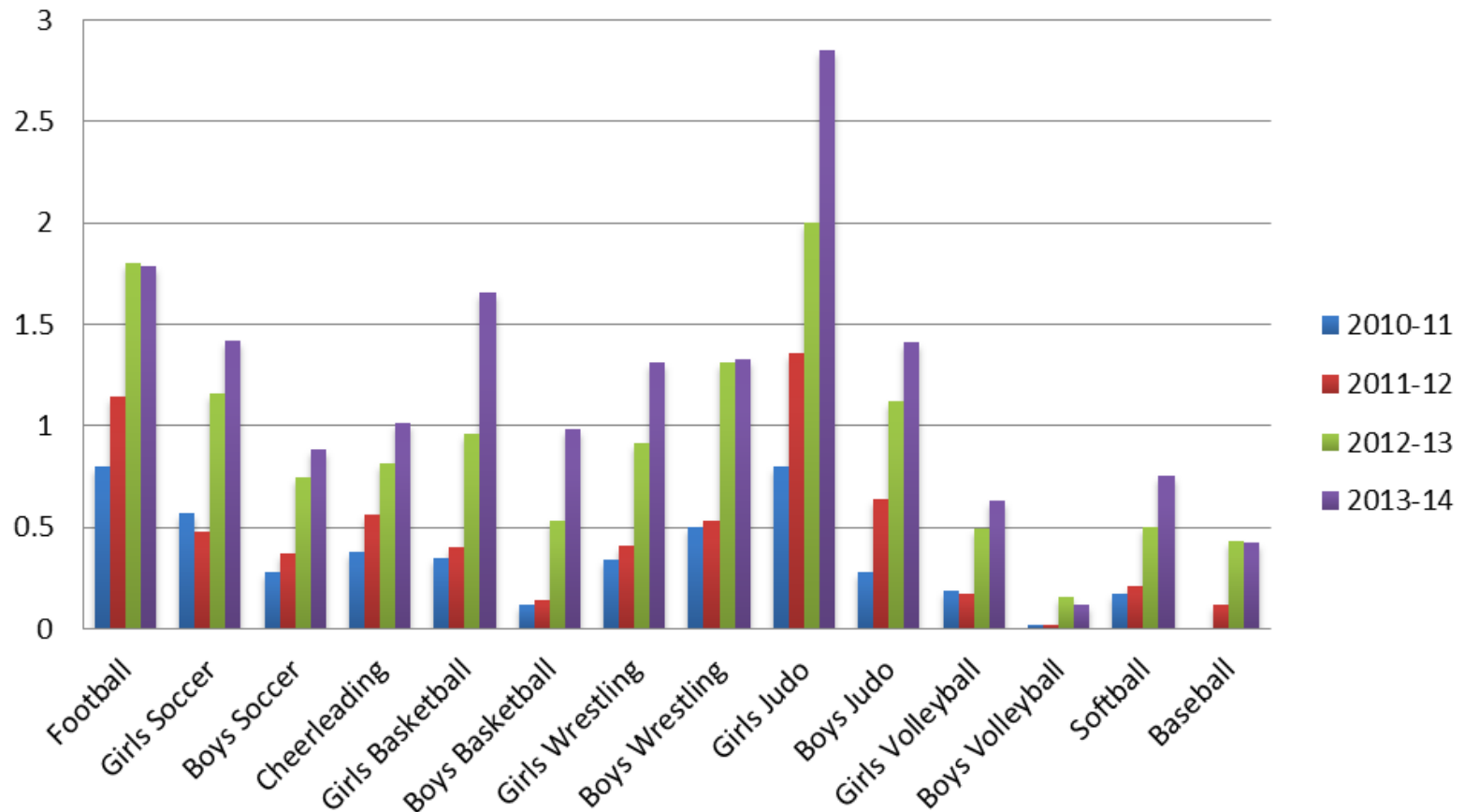
Neurocognitive Testing

| School Year | # of Baselines | # of Concussions |
|-------------|----------------|------------------|
| 2010 - 11 | 4,683 | 446 |
| 2011 - 12 | 10,113 | 895 |
| 2012 - 13 | 10,496 | 1,140 |
| 2013 - 14 | 10,012 | 1,370 |
| 2014 - 15 | 9,451 | 1,008 |

Number of Concussion by Sport SY 2010-14



Concussion Injury Rate per 1000 exposures for 14 Sports during School Years 2010-2014



Number of Days Missed Report from August 1, 2011 to July 31, 2014

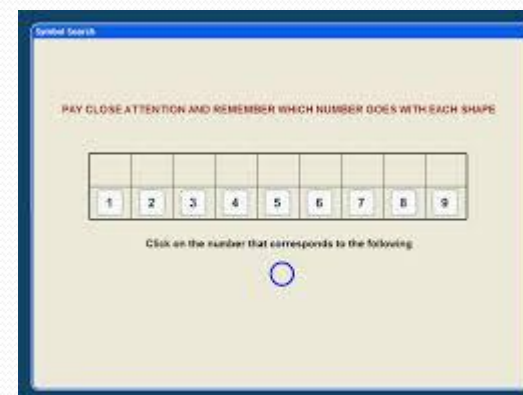
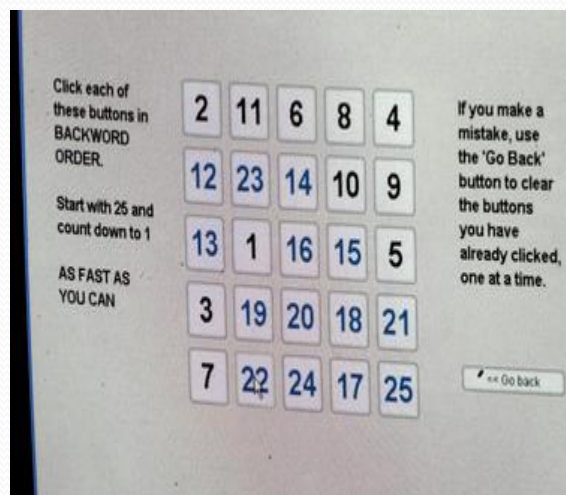
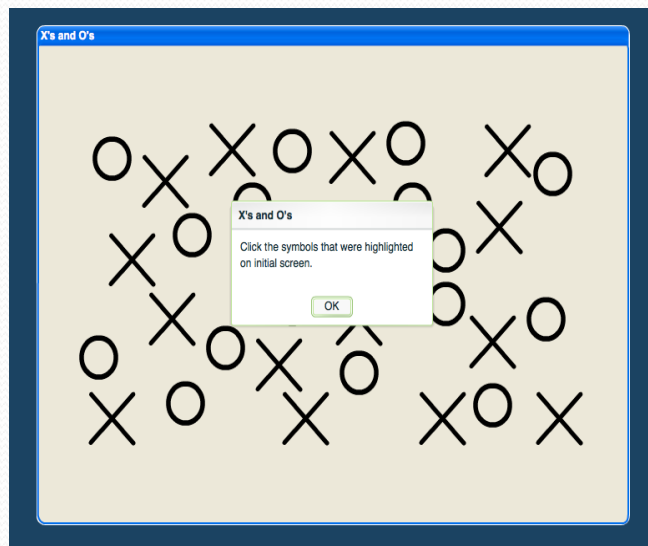
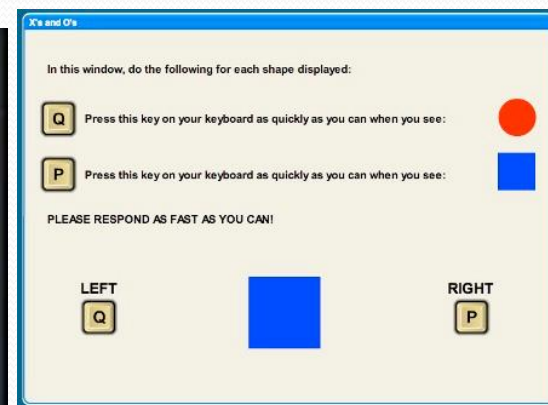
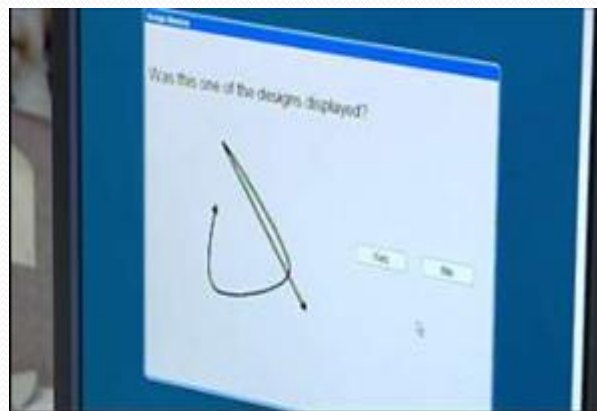
| Days Missed | MEAN | SD |
|--|-------|-------|
| August 1, 2013 – July 31, 2014 (n=1370) | 26.15 | 25.17 |
| August 1, 2012 - July 31, 2013 (n=1140) | 26.2 | 18.98 |
| August 1, 2011 - July 31, 2012 (n=845) | 23.5 | 16.5 |

Starts with Baseline Assessments (prior to injury)

- All incoming 9th and 11th grade student athletes participating in collision and contact sports will be administered the following baseline assessments
 - Graded Symptom Check list (GSC)
 - Cognitive status assessment using either Immediate Post-Concussion Assessment Test or Standardized Assessment of Concussion test



ImPACT



ImPACT



ImPACT™ Clinical Report



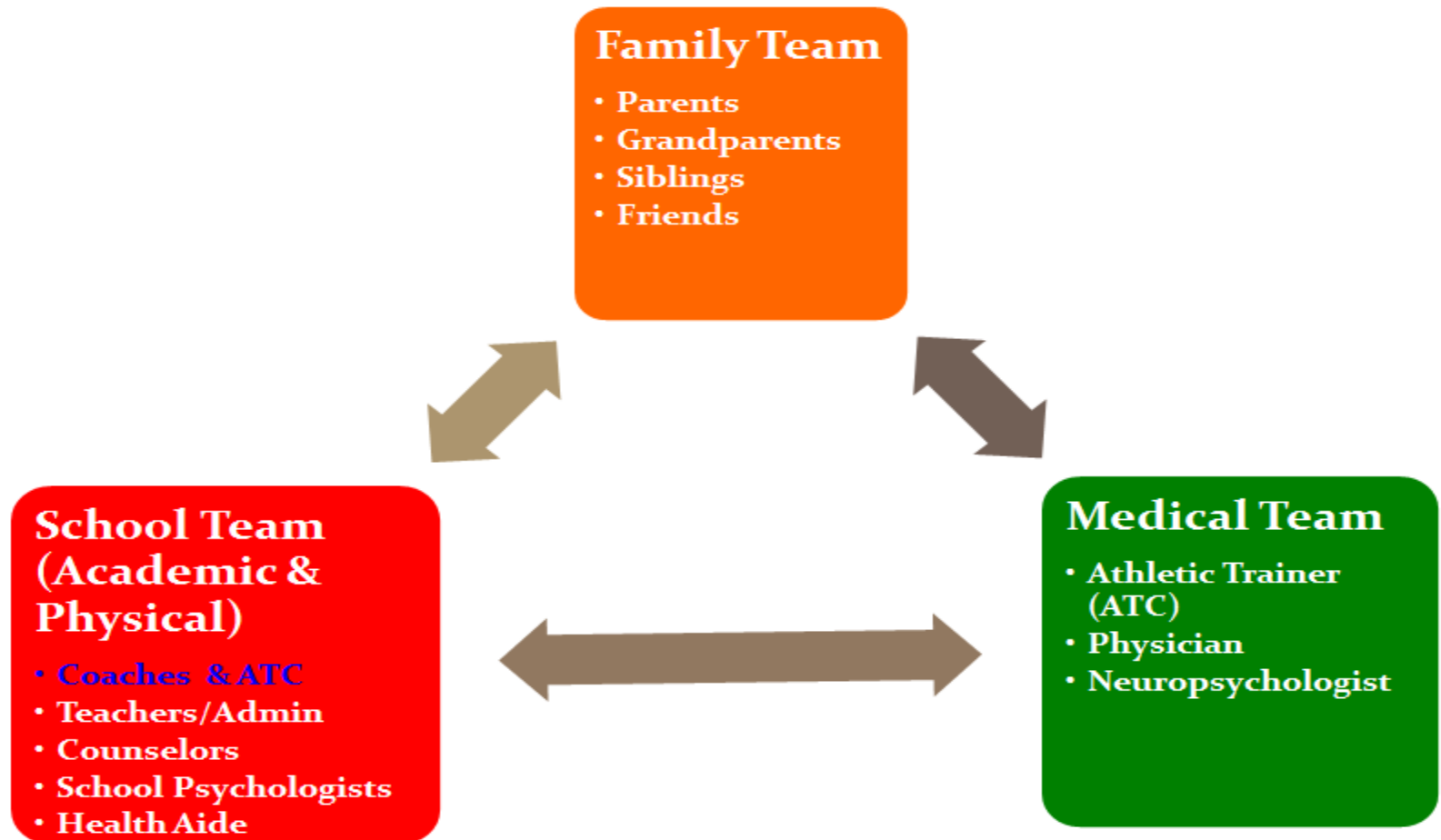
| Exam Type | Baseline | Post-Injury 1 | Post-Injury 2 | | |
|-----------------|-----------|---------------|---------------|--|--|
| Date Tested | 08/1/2009 | 06/24/2010 | 07/6/2010 | | |
| Last Concussion | | 06/04/2010 | 06/04/2010 | | |
| Exam Language | English | English | English | | |
| Test Version | 2.0 | 2.0 | 2.0 | | |

| Composite Scores | | | | | | | |
|------------------------------|-------|-----|-----------|-----|-------|-----|--|
| Memory composite (verbal) | 93 | 85% | 85 | 80% | 97 | 97% | |
| Memory composite (visual) | 85 | 81% | 81 | 69% | 81 | 69% | |
| Visual motor speed composite | 32.42 | 30% | 35.78 | 49% | 42.38 | 85% | |
| Reaction time composite | 0.66 | 28% | 0.54 | 79% | 0.62 | 41% | |
| Impulse control composite | 6 | | 13 | | 9 | | |
| Total Symptom Score | 0 | | 17 | | 0 | | |

Scores in **bold RED** type exceed the Reliable Change Index (RCI) when compared to the baseline score. However, scores that do not exceed to RCI index may still be clinically significant. Percentile scores if available are listed in small type.

| | | | | | |
|------------------------|--|-----|---|--|--|
| Hours slept last night | | 6.5 | 9 | | |
| Medication | | | | | |

Team Approach to manage concussions



Post-Concussion Assessments

- Should a student athlete sustain a head trauma the Athletic Trainer will:
 - Immediately remove athlete from game / practice
 - Conduct clinical evaluation
 - Decide immediate referral to physician and/or activate Emergency Medical System or Delayed Referral
 - Athletic trainer will provide student athlete or parent/guardian with two forms:
 - GSC List for Concussed Athletes
 - Medical Referral Form For Concussed Athletes

Forms



Hawaii State Department of Education MEDICAL REFERRAL FORM FOR CONCUSSED ATHLETE

(To be filled out by Athletic Health Care Trainer (AHCT) and/or Team Physician)

Name _____ Grade _____ Age _____ School _____

Date of Concussion _____ Sport _____ Level: ☐ Jr. Varsity ☐ Varsity

Concussion History:

Date(s) of Previous Known Concussion(s) to the AHCT and/or Team Physician _____

Mechanism of Injury for Current Concussion:

Treatment: (Check all that apply)

- ☐ Removed from Participation ☐ Parent Notified ☐ Referral to ER
☐ Graded Symptom Checklist ☐ Cognitive Assessment ☐ Postural Assessment

Athletic Health Care Trainer _____ Phone _____

Dear Physician:

Please review and complete this form and have the student athlete return the form to his/her school's AHCT.

The purpose of this form is to ensure that student athletes return to play when safe and appropriate as directed by the most recent medical evidence. Please contact me if you have any questions (phone number above).

For information on concussions in young athletes, please refer to:

Consensus Statement on Concussion in Sport. *Clin J Sport Med* 2009; 19:185-200.

Return to Activity Plan (RAP):

Step 1. Complete cognitive rest. This may include staying home from school or limiting school hours and study for several days which would be determined by a physician and AHCT, and supported by school administration. Activities requiring concentration and attention may worsen symptoms and delay recovery.

Step 2. Return to school full time.

Steps 3-7. Will be supervised by the high school AHCT and is subject to clearance by the treating physician. These steps cannot begin until cleared by the treating physician for further activity.
(Each STEP is separated by a minimum of at least 24 hours.)

Step 3. Light exercise. Walking or riding a stationary bike.

Step 4. Running in the gym or on the field.

Step 5. Non-contact training drills in full equipment. Weight training can begin.

Step 6. Full contact practice or training.

Step 7. Play in game.

Please Indicate Level of Clearance (To be filled out by physician):

_____ Cognitive and Physical Rest Only. Limit school attendance, computer, TV, and phone and texting time.

_____ Cleared to Return to School with NO physical activity, NO physical education class or athletics.

_____ Follow-up appointment scheduled.

_____ Cleared to begin "Return to Activity Plan" (See Steps 3-7 above).

Physician's Name _____ Phone _____

Physician's Signature _____ Date _____

DISTRIBUTION: WHITE-Athletic Health Care Trainer (AHCT); CANARY-Parent/Legal Guardian

Rev. 5/13, RS 13-1287 (Rev. of RS 12-0539)



Hawaii State Department of Education GRADED SYMPTOM CHECKLIST FOR CONCUSSED ATHLETE

Name _____ Sport _____ Today's Date _____

Date of Baseline/Post-Concussion Test _____ Date of Concussion _____

Parent /Legal Guardian: If any of the following severe signs are observed, contact your physician or go to the Emergency Room for urgent care. In case of emergency, call 911.

- Headache that worsens
- Looks very drowsy or can't be woken up
- Can't recognize people or places
- Behaves unusually or seems confused, very irritable
- Repeated vomiting
- Seizures
- Unsteady on feet, slurred speech
- Weakness or numbness in arms or legs

Score the concussed student athlete on the following symptoms based on how your child feels now.

Scale of 0-6: 0 = not present, 1 = mild, 3 = moderate, and 6 = most severe

| Symptom | Time of Injury | 2-3 Hours Post Injury | 24-Hours Post Injury | 48-Hours Post Injury | 72-Hours Post Injury |
|--------------------------|----------------|-----------------------|----------------------|----------------------|----------------------|
| Headache | | | | | |
| Nausea | | | | | |
| Vomiting | | | | | |
| Balance problems | | | | | |
| Dizziness | | | | | |
| Fatigue | | | | | |
| Trouble falling asleep | | | | | |
| Sleeping more than usual | | | | | |
| Sleeping less than usual | | | | | |
| Drowsiness | | | | | |
| Sensitivity to light | | | | | |
| Sensitivity to noise | | | | | |
| Irritability | | | | | |
| Sadness | | | | | |
| Nervousness | | | | | |
| Feeling more emotional | | | | | |
| Numbness or tingling | | | | | |
| Feeling slowed down | | | | | |
| Feeling mentally foggy | | | | | |
| Difficulty concentrating | | | | | |
| Difficulty remembering | | | | | |
| Visual problems | | | | | |
| Total Symptom Score | | | | | |

The Key to RECOVERY is REST. The concussed student athlete should not participate in any high-risk activities (e.g., sports, physical education, bike riding, surfing, etc.) if exhibiting any of the symptoms listed above. It is important to limit activities that require a lot of thinking or concentration (e.g., homework, job-related, texting or video games), as this can also make these symptoms worse. The concussed student athlete will need help from their parents, teachers, coaches, or Athletic Health Care Trainers (AHCT) to help monitor their recovery and return to activities.

Parent/Legal Guardian: Please use the above chart to monitor your child's symptoms. Should you have any questions, please contact your family physician or your school ACHT.

DISTRIBUTION: WHITE-Athletic Health Care Trainer (AHCT); CANARY-Parent/Legal Guardian

Rev. 5/13, RS 13-1289 (Rev. of RS 12-0540)

What are the steps for my athlete to get back on the field/court?

- Physician clearance to start return to play protocol
- Return to baseline or normative values on ImPACT, and Graded Symptom Check list

Exercise portion of the RTP



How long does a student take to recover?

- Student athletes average 26 days to recover
- It takes an average of 12 days to go from step 1 to step 3.



Complete
Cognitive
Rest
Step 1



Return to
School
Full Time
Step 2



Light
Exercise
Step 3

Keys to Recovery



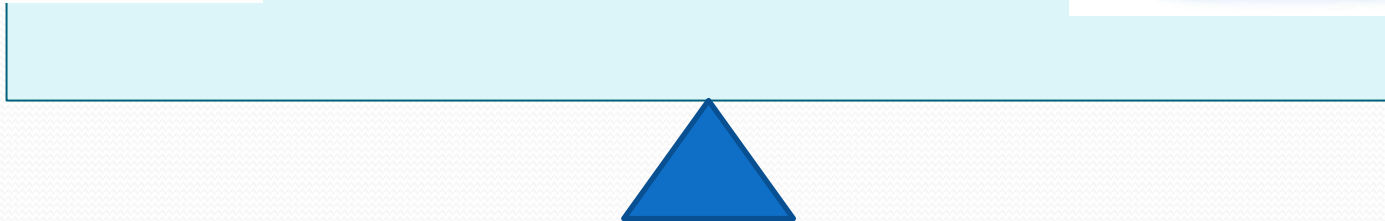
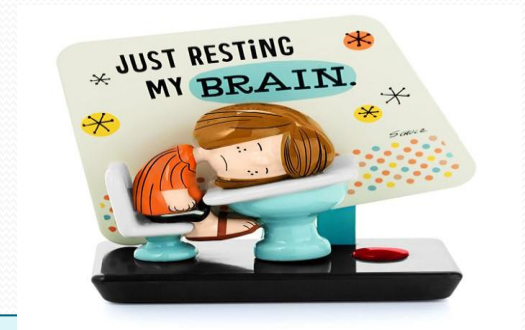
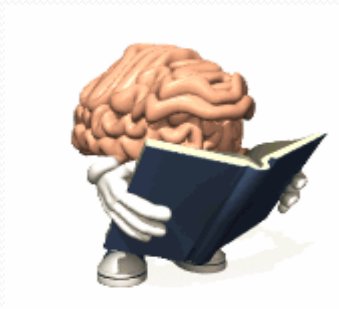
- Resting the brain & getting good sleep
- No additional forces to head/ brain
- Managing/ facilitating physiological recovery
 - Avoid activities that produce symptoms
 - Not over-exerting body or brain

Ways to over-exert

- Physical
- Emotional
- Cognitive! (concentration, learning, memory)

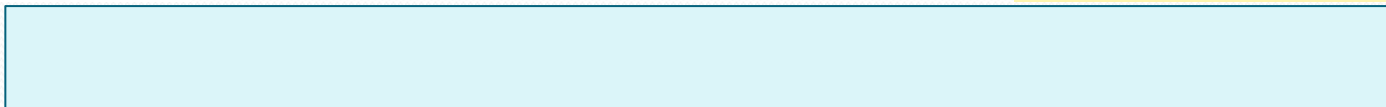
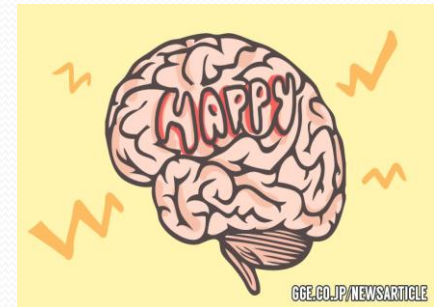
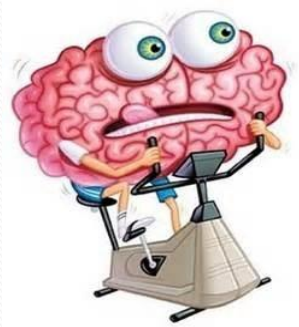
Cognitive Rest is essential

- Cognitive rest can include:
 - Limiting work done at school
 - Limiting time watching tv, use of cell phone and computers, video games and even reading.



Physical Rest

- This includes NOT only NOT participating in the athlete's sport but also additional recreational activities such as skateboarding, surfing, jogging and anything that causes physical exertion.



What should a coach do if his/her student athlete has a concussion?

- If emergency, follow your school's EAP
- Coaches need to report concussion to:
 - Athletic Trainers
 - Parents

What should parents do if they think their child has concussion?

- Communicate with
 - Physician
 - Coach
 - Athletic Trainer
 - School Administration / Counselors

What to watch for after a concussion

- Increased problems paying attention or concentrating
- Increased problems remembering or learning new information
- Longer time needed to complete tasks or assignments
- Difficulty organizing tasks
- Inappropriate or impulsive behavior
- Greater irritability
- Less ability to cope with stress or more emotional

What is my take home message?

- We need to work as a team to manage concussions.
- Become educated about concussions
- Change the way we view a concussion
- It's not a "Ding" it's a serious brain injury



Centers of Disease Control & Prevention (CDC)

- www.cdc.gov/concussion/HeadsUp/high_school.html
- www.cdc.gov/concussion/HeadsUp/youth.html
- www.cdc.gov/concussion/HeadsUp/schools.html
- www.cdc.gov/concussion/clinician.html