

Best Case Practices for Secondary School ATC's



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Disclosure Statement

- Financial Relationship
 - Slack Books – Publication contract
- Nonfinancial Relationship
 - Breg Inc.
 - Mueller
 - Medco Sports Medicine
 - DonJoy
 - Gatorade
 - Dragon Fly

Disclosure



Literature Review

1. Casa, D. J., Almquist, J., Anderson, S. A., Baker, L., Bergeron, M. F., Biagioli, B., ... & Valentine, V. (2013). The inter-association task force for preventing sudden death in secondary school athletics programs: best-practices recommendations. *Journal of Athletic Training*, 48(4), 546-553.
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Literature Review

3. Courson, R., Goldenberg, M., Adams, K. G., Anderson, S. A., Colgate, B., Cooper, L., ... & Turbak, G. (2014). Inter-association consensus statement on best practices for sports medicine management for secondary schools and colleges. *Journal of Athletic Training*, 49(1), 128-137.
4. Casa, D. J., & Csillan, D. (2009). Preseason heat-acclimatization guidelines for secondary school athletics. *Journal of Athletic Training*, 44(3), 332.

Literature Review

5. Conley, K. M., Bolin, D. J., Carek, P. J., Konin, J. G., Neal, T. L., & Violette, D. (2014). National Athletic Trainers' Association Position Statement: Preparticipation Physical Examinations and Disqualifying Conditions. *Journal of Athletic Training*, 49(1), 102-120.
6. Drezner, J., & Corrado, D. (2011). Is there evidence for recommending electrocardiogram as part of the pre-participation examination?. *Clinical Journal of Sport Medicine*, 21(1), 18-24.

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7. Drezner, J. A., Rao, A. L., Heistand, J., Bloomingdale, M. K., & Harmon, K. G. (2009). Effectiveness of emergency response planning for sudden cardiac arrest in United States high schools with automated external defibrillators. *Circulation*, 120(6), 518-525.
8. Roberts, W. O., & Stovitz, S. D. (2013). Incidence of sudden cardiac death in Minnesota High School athletes 1993–2012 screened with a standardized pre-participation evaluation. *Journal of the American College of Cardiology*, 62(14), 1298-1301.

The inter-association task force for preventing sudden death in secondary school athletics programs: best-practices recommendations

- EAP's
- AT Coverage
- Strength and Conditioning
- Heat Illness
- Cardiac Issues

Outlines

- 1. Duties and Responsibility of AT and MD
- 2. Chain of Command
- 3. Decision making authority
- 4. Selection, renewal, and dismissal of members
- 5. Performance appraisal tools

Exertional heat stroke and emergency issues in high school sport

- Cool First, Transport Second
- Need to get temp below 102 before transport

Inter-association consensus statement on best practices for sports medicine management for secondary schools and colleges

- 2014 JAT
- Recommendations from 11 different associations
- 7.6 Million High School Athletes
- 1.4 Million Injuries to High School Athletes each year

Preseason heat-acclimatization guidelines for secondary school athletics.

- 2009 JAT
- 14 Day acclimatization period



National Athletic Trainers' Association Position Statement: Preparticipation Physical Examinations and Disqualifying Conditions

- 2014 JAT
- Breaks PPE's in sections



Is there evidence for recommending electrocardiogram as part of the pre-participation examination

- 2011 Clin Journal Sports Med
- No good numbers on amount of SCD each year
- Recommend testing for all athletes
- Positive findings outweigh cost

Effectiveness of emergency response planning for sudden cardiac arrest in United States high schools with automated external defibrillators

- 1710 high schools w/AED were studied
- 83% had EAP, 40% practice the EAP
- 36 cardiac issues over 6 months
- 14 high school age, 22 adult
- 83% received shock
- Survival Rates 9 of 14 and 14 of 22

Incidence of sudden cardiac death in Minnesota High School athletes 1993–2012 screened with a standardized pre-participation evaluation

- 2013 J American College of Cardiology
- Don't recommend cardiac studies
- Recommend standardized PPE form first



What did we learn?

1. Decisions regarding management and treatment of heat related illness should be made utilizing all available EBP methods available to the clinician.
2. Clinician's decisions for the development and implementation of emergency action plans should be made utilizing all available research.

What did we Learn?

3. Clinicians need to use current research as a guide in developing and implementing their pre-participation physical examinations.
4. Fostering relationships between other medical providers and staff athletic trainers can help develop a strong sports medicine team.

Topic #1 Heat Illness

- Best Case Practices for Evaluation, Treatment, and Management



Program Goals

- Identify the signs and symptoms of heat related illness
- Identify and distinguish the different types of heat illness
- Identify the AT's role in the heat related illness management process

Program Goals

- Identify the tx guidelines and immediate referral criteria for heat-related illness
- Identify prevention strategies and current methods of monitoring weather conditions

Hyperthermia

- Major concern in sports. Especially in the southern region.
- Need to be aware of temperature and humidity.



Hyperthermia

- Heat Cramps
- Heat Exhaustion
- Heat Stroke



Heat Cramps

- Body will produce painful muscle cramps for multiple reasons.
 - Body is dehydrated and wants to stop activity
 - Internal body temp is elevated to abnormal level
 - Sickle Cell crisis
- Need to know status of sickle cell trait / disease. Can be misdiagnosed as cramps (Casa JAT 2013)
- NCAA now mandates testing for athletes in Division I and II or waiver release.

NCAA Recommendations

- Set their own pace.
- Engage in a slow and gradual preseason conditioning regimen to be prepared for sports-specific performance testing and the rigors of competitive intercollegiate athletics.
- Build up their intensity slowly while training.

NCAA Recommendations

- Use adequate rest and recovery between repetitions, especially during “gassers” and intense station or “mat” drills.
- Not urged to perform all-out exertion of any kind beyond two to three minutes without a breather.
- Be excused from performance tests such as serial sprints or timed mile runs, especially if these are not normal sport activities.

NCAA Recommendations

- Stop activity immediately upon struggling or experiencing symptoms such as muscle pain, abnormal weakness, undue fatigue, or breathlessness.
- Stay well hydrated at all times, especially in hot and humid conditions.
- Maintain proper asthma management.

NCAA Recommendations

- Refrain from extreme exercise during acute illness, if feeling ill, or while experiencing a fever.
- Access supplemental oxygen at altitude as needed.
- Seek prompt medical care when experiencing unusual distress.

S&S Heat Cramps

- Dehydration
- Thirst
- Sweating
- Transient Muscle Cramps
- Fatigue



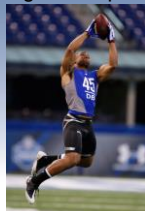
Treatment

- Stretching – try to keep weight bearing
- Fluid Replacement
- Core body temp if available
- “Pickle Juice”



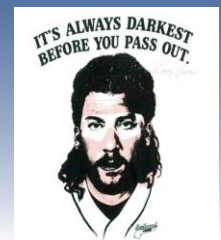
Question

- Who has more trouble in the heat?
 - A defensive back with 4% body fat.
 - Offensive lineman who weighs 350 pounds



Heat Exhaustion

- Defined as the inability to continue activity due to any combination of heavy sweating, dehydration, sodium loss, and energy depletion.



S&S Heat Exhaustion

- Normal or elevated body temp
- Dehydration
- Dizziness
- Headache
- Nausea
- Vomiting
- Cool, clammy skin
- Decreased urine output, etc...

Treatment

- Remove from heat
- Cool body accordingly
- Treat any other medical symptoms and monitor



Heat Stroke

- Defined as having an elevated core body temp (Greater than 104 F) with associated signs of organ system failure due to hyperthermia.
- Need Rectal Temp
– (Casa 2013 JAT)



Rectal Temp

- Thermistor's
- Can be left in place



Rectal Temp

1. Drape the patient appropriately for privacy
2. Position the patient on their side with their top knee and hip flexed forward
3. Make sure the probe is cleaned with isopropyl alcohol
4. Lubricate the probe
5. Make sure the probe is plugged into the thermometer

Rectal Temp

6. Turn the thermometer on
7. Insert the probe 10 centimeters past the anal sphincter
8. If you meet resistance while inserting, stop and remove the probe, then try again
9. Leave the probe in for the duration of treatment.

S&S Heat Stroke

- Hot and Dry Skin
- Tachycardia (100 to 120 bpm)
- Central Nervous System Changes
- Hyperventilation

Treatment

- Decrease body temp and seek advanced medical care
- Be careful w/ Immersion

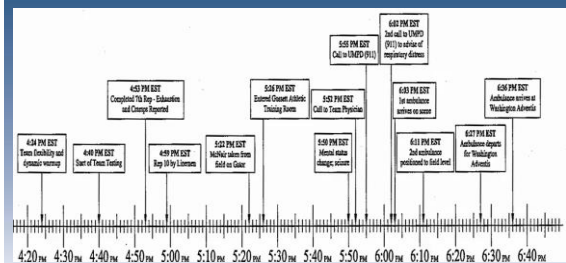


Recent Situations

- Maryland – May 29th, 2018



Timeline of Events



Key Gaps in Timeline

- The time from onset of cramps to being removed from field was 34m 12s
- The time treated in athletic training room prior to change in stature was 23m 55s
- The time from 911 call to ambulance arriving at the parking lot in front of Gossett Team House was 8m 33s
- The time from the 911 call to departing the stadium was 37m 3s
- The onset of symptoms to the call to 911 was 1h 7m
- The time from onset of symptoms following the seventh repetition to departure in the ambulance en route to Washington Adventist was 1h 39m 3s.

Question about Cold Immersion

- The Head Football Athletic Trainer [Wes Robinson] was questioned about why the decision to not utilize the cold whirlpool to cool Jordan McNair following the change in status and seizure activity. He answered due to the concern of size of the student-athlete and the smaller stature of the athletic trainers providing care, there was fear of drowning. Cooling was attempted with cold towels and ice packs to the groin and axilla.

TACO

- Tarp Assisted Cooling w/ Oscillation



Conclusions

- The injury evaluation did not include any assessment of vital signs. Specifically, core temperature was not established which ultimately is a critical part in identifying a rapid decline in the athlete's physical state

Conclusions

- Treatment provided did not appropriately address the escalating symptoms of heat-related illness. The prehospital care of exertional heat illness should include rapid recognition and treatment of signs and symptoms associated with this condition. No vital signs were noted including core temperature.

Conclusions

- No apparatus was used for prompt cooling of the patient May 29, 2018. This is discussed in the literature as best practice and needs to be part of the University of Maryland Sports Medicine Services Staff Manual. The current procedures does not include core temperature assessment but does include aggressive cooling in the event of an identified exertional heat illness.

Conclusions

- Failure to provide directions to EMS to the scene and designate an individual to flag down EMS and direct to scene. There was confusion as EMS arrived in the Gosset parking lot while the target point was the field level driveway as referenced in the EAP in the 2017-18 Med Manual E-Book and Staff Administration E-Book.

Conclusions

- Once the patient's condition deteriorated, and respiratory aids were needed, the trauma bag had to be retrieved from the practice area as equipment (manual suction or oxygen) was not available in the Gosset Athletic Training Room.

Prevention is the Key

- Check urine color thru the week
- Know susceptible individuals
- Push hydration early and often
- Can use some supplements



Prevention is the Key

- Monitoring the heat and humidity
- Having established guidelines
- Adjusting practice as needed
- Gradual acclimatization
- Weight in and out
- Having a plan in place

Consensus Statement

- Highlights from JAT 2014
- Best Practice Recommendations



2014 Consensus Statement

1. Acclimatization Period – more to follow
2. Education
3. Activity Modification
4. Fluid Availability
5. Weight Charts – no more than 2% loss
6. CNS Problems = Heat Stroke
7. Rectal Temp.

2014 Consensus Statement

8. Cold immersion before transport
9. Monitoring and complete follow up



Pre-Season Acclimatization

- 2009 JAT Guidelines
- 14 days long
- 1 thru 5 – Formal Practice, 1 a day
- No more than 3 hours long
- 1 Hour walkthrough after 3 hour rest window
- Day 1 and 2 – Helmet
- Day 3 thru 5 – Helmet and Shoulder Pads

Pre-Season Acclimatization

- Day 6 thru 14
- Alternate 2x and 1x practice days
- Total of 5 hours for 2x days



Monitoring Methods

- Sling Psychrometer
- Relative Humidity



Monitoring Methods

- Digital Psychrometer



Monitoring Methods

- Wet Bulb Globe Therm.
- The Wet Bulb Globe Temperature reading is a composite temperature used to estimate the effect of air temperature, humidity, and solar radiation on the human body.



WGBT	ACTIVITY GUIDELINES AND REST BREAK GUIDELINES
Under 82.0	Normal Activities - Provide at least three separate rest breaks each hour with a minimum duration of 3 minutes each during the workout.
82.0 - 86.9	Use discretion for intense or prolonged exercise; watch at-risk players carefully. Provide at least three separate rest breaks each hour with a minimum duration of 4 minutes each.
87.0 - 89.9	Maximum practice time is 2 hours. <u>For Football</u> , players are restricted to helmet, shoulder pads, and shorts during practice, and all protective equipment must be removed during conditioning activities. <u>If the WGBT rises to this level during practice, players may continue to work out wearing football pants without changing to shorts.</u> <u>For All Sports</u> , Provide at least four separate rest breaks each hour with a minimum duration of 4 minutes each.
90.0 - 92.0	Maximum practice time is 1 hour. <u>For Football</u> , no protective equipment may be worn during practice, and there may be no conditioning activities. <u>For All Sports</u> , There must be 20 minutes of rest breaks distributed throughout the hour of practice.
Over 92.1	No outdoor workouts. Delay practice until a cooler WGBT level is reached.

Weight Charts



Where are we going?

- Options for core body temp.
 - Rectal temp
 - Ingestible sensor
- Cooling Vests



AT's role in process

- Have a prevention / treatment plan in place
- Have necessary equipment on hand and in good working order
- Talk about rectal temp with parents, coaches, administrators. Waiver Included.
- Sickle Cell Testing / Waiver
- EDUCATE. EDUCATE. EDUCATE.

Preparticipation Exams

- Where are we now and what does the future hold?



Program Goals

- Identify stations utilized in administration of pre participation exams
- Identify pre-participation exam setup models
- Identify equipment and resources needed for pre participation examinations

Program Goals

- Identify current guidelines for pass / fail criteria
- Identify future methods for paperless administration of PPE's

PPE's

- Preparticipation examination
- Not in the place of physicals
- Although it may be the only medical eval for 30% to 88% of student athletes
- Screening tool to identify conditions or problems that would restrict or limit participation in sports**

Hughston History

- IAHCR – Started by Dr. Stephen Hunter
- Idea was to provide lost cost PPE's for student athletes.
- Screen over 1,000 kids each year.
- Money is distributed back to schools
- Current cost is \$10

How do we do it?

- Medical Dir. – Dr. Clark Cobb, US Army
- Medical Volunteers – MD, RN, ATs, PTs
- High School Health Occupation Students
- Parents, Coaches, and Teachers
- Anybody can help, never turn down extra hands

Research Options

- Current Topics – Body Fat



Research Options

- 40 yard dash
- Sit and Reach
- Vertical Jump
- Long Jump
- Questionnaires

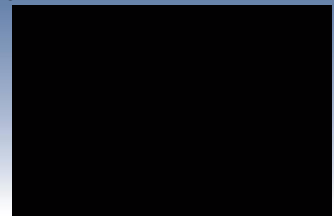


Our Layout



Pre Station

- Checking status
 - Online Paperwork



Station 2 - History

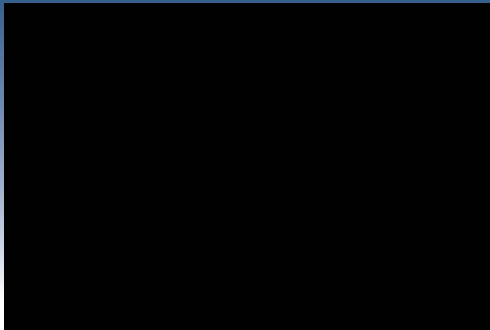
- Most Important
- ELABORATE
- 88% of abnorm findings
- 57% of activity restriction



2014 NATA Position Statement

- Comprehensive medical and family history
 - More to come in case study
- Reviewed carefully
- Look for underlying conditions

Station 3 – Ht and Wt



Station 4 – Pulse and BP



Hughston Criteria

- Girls
 - 11yrs old = Flag if $\geq 128/87$
 - 12yrs old = Flag if $\geq 130/88$
 - 13yrs old = Flag if $\geq 132/89$
 - 14yrs old = Flag if $\geq 133/90$
 - 15yrs old = Flag if $\geq 134/91$
 - 16yrs old = Flag if $\geq 135/91$
 - 17yrs old = Flag if $\geq 136/91$

Hughston Criteria

- Boys
 - 11yrs old = Flag if $\geq 129/88$
 - 12yrs old = Flag if $\geq 131/89$
 - 13yrs old = Flag if $\geq 133/89$
 - 14yrs old = Flag if $\geq 136/90$
 - 15yrs old = Flag if $\geq 138/91$
 - 16yrs old = Flag if $\geq 141/92$
 - 17yrs old = Flag if $\geq 143/94$

Hughston Criteria

- Chart shows 99th percentile systolic and diastolic blood pressure, 50th for height



Station 5 – Ortho and Flexability



2014 NATA Position Statement

- 90 Second musculoskeletal exam



TABLE THE 90-SECOND MUSCULOSKELETAL SCREENING EXAMINATION

INSTRUCTION	OBSERVATION
<ul style="list-style-type: none"> ◦ Stand facing examiner. ◦ Look at ceiling, floor, over both shoulders, touch ears to shoulder. ◦ Shrug shoulders (resistance). ◦ Abduct shoulders to 90° (resistance at 90°). ◦ Full external rotation of arms. ◦ Flex and extend elbows. ◦ Arms at sides, elbows at 90° flexed; pronate and supinate wrists. ◦ Spread fingers; make fist. ◦ Tighten (contract) quadriceps; relax quadriceps. ◦ "Duck walk" away from and toward examiner. ◦ Back to examiner. ◦ Knees straight, touch toes. ◦ Raise upon toes, heels. 	<ul style="list-style-type: none"> ◦ Acromioclavicular joints: general habitus ◦ Cervical spine motion ◦ Trapezius strength ◦ Deltoid strength ◦ Shoulder motion ◦ Elbow motion ◦ Elbow and wrist motion ◦ Hand and finger motion, strength, and deformities ◦ Symmetry and knee effusions, ankle effusion ◦ Hip, knee, and ankle motions ◦ Shoulder symmetry; scoliosis ◦ Scoliosis, hip motion, hamstrings tightness ◦ Calf symmetry, leg strength

Station 6a & b – Medical Exam



2014 NATA Position Statement

- 14 Element AHA Screening
 - Personal History
- Chest pain/discomfort/tightness/pressure related to exertion
- Unexplained syncope/near-syncope
- Excessive exertional and unexplained dyspnea/fatigue or palpitations, associated with exercise

Personal History

- Prior recognition of a heart murmur
- Elevated systemic blood pressure
- Prior restriction from participation in sports
- Prior testing for the heart, ordered by a physician

2014 NATA Position Statement

- Family History
 - Death in family before 50 from heart disease
 - Disability from heart disease before 50
 - Knowledge of certain cardiac conditions

2014 NATA Position Statement

- Physical Examination
 - Heart murmur
 - Femoral pulses to exclude aortic coarctation
 - Physical stigmata of Marfan syndrome
 - Brachial artery blood pressure

Station 7 - Vision



Hughston Criteria

- Anything worse than 20/40 requires eye exam.

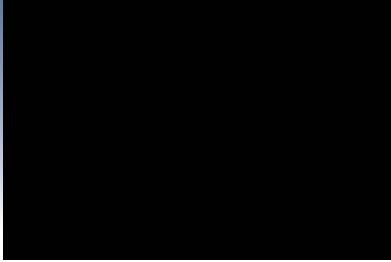


Station 8 – Body Fat



Station 9 - Checkout

- Fail Letters



Pass / Fail

- Criteria established by medical director
 - Cleared for all sports w/out restriction
 - Cleared for all sports w/out restriction with recommendation for further eval or tx
 - Not cleared
 - Pending further eval
 - For any sport
 - For certain sports

Recommended Criteria

1. Does the condition pose an unacceptable risk or place the athlete at increased risk for further injury?
2. Does the condition place other participants at risk for injury?
3. Can the athlete safely participate with treatment or medication?
4. Can limited participation be allowed while treatment is being completed?
5. If clearance is denied for specific sports, in which activities can the athlete safely participate?

History Case Study

- 15 year old African American male
- Incomplete history section
- Date discrepancy – PPE 8/26, HX 9/9
- Died months after PPE was performed

GENERAL QUESTIONS		Yes	No	MEDICAL QUESTIONS		Yes	No
1. Has a doctor ever denied or restricted your participation in sports for any reason?			✓	25. Do you cough, wheeze, or have difficulty breathing during or after exercise?		✓	
2. Do you have any ongoing medical conditions? If so, please identify below: <input type="checkbox"/> Asthma <input type="checkbox"/> Anemia <input type="checkbox"/> Diabetes <input type="checkbox"/> Infectious Other:			✓	27. Have you ever fainted or taken seizure medication?		✓	
3. Have you ever spent the night in the hospital?		✓		28. In the past year, have you ever had a seizure?		✓	
4. Have you ever had surgery?		✓		29. Have you ever had a seizure while driving?		✓	
HEART HEALTH QUESTIONS ABOUT YOU				HEART HEALTH QUESTIONS ABOUT YOUR FAMILY			
5. Have you ever passed out or nearly passed out (fainting or dizziness) without warning?		✓		30. Have you ever had a heart problem, heart attack, or heart surgery?		✓	
6. Have you ever had chest pain, tightness, or pressure in your chest during exercise?		✓		31. Have you ever had a heart problem, heart attack, or heart surgery in your family?		✓	
7. Have you ever had a heart problem (such as irregular heartbeat) during exercise?		✓		32. Have you ever had a heart problem, heart attack, or heart surgery in your family?		✓	
8. Has a doctor ever told you that you have any heart problem? If so, check all that apply: <input type="checkbox"/> High blood pressure <input type="checkbox"/> A heart murmur <input type="checkbox"/> High cholesterol <input type="checkbox"/> A heart condition <input type="checkbox"/> Kidney disease Other:		✓		33. Have you ever had a heart problem, heart attack, or heart surgery in your family?		✓	
9. Has a doctor ever advised a test for your heart? (For example, ECG/ECG, echocardiogram)		✓		34. Have you ever had a heart problem, heart attack, or heart surgery in your family?		✓	
10. Do you get light-headed or feel a short of breath when exercising?		✓		35. Have you ever had a heart problem, heart attack, or heart surgery in your family?		✓	
11. Have you ever had an unexplained accident?		✓		36. Have you ever had a heart problem, heart attack, or heart surgery in your family?		✓	
12. Do you get more tired or short of breath more quickly than your friends?		✓		37. Have you ever had a heart problem, heart attack, or heart surgery in your family?		✓	

HEART HEALTH QUESTIONS ABOUT YOUR FAMILY		Yes	No	BONE AND JOINT QUESTIONS		Yes	No
13. Has any family member or relative died of heart problems or had an unexpected or unexplained sudden death before age 50 (suddenly dying, aneurysm or aortic dissection, or sudden infant death syndrome)?			✓	38. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓	
14. Does anyone in your family have hypertension, coronary artery disease, angina, or a heart problem, heart attack, or heart surgery?			✓	39. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓	
15. Does anyone in your family have a heart problem, heart attack, or heart surgery?			✓	40. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓	
16. Has anyone in your family had unexplained fainting, unexplained seizures, or heart problems?			✓	41. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓	
FEMALE ONLY				FEMALE ONLY			
17. Have you ever had a menstrual period?		✓		42. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓	
18. How often do you have a menstrual period?		✓		43. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓	
19. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓		44. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓	
20. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓		45. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓	
21. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓		46. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓	
22. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓		47. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓	
23. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓		48. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓	
24. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓		49. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓	
25. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓		50. Have you ever had a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		✓	

Some have my right knee hurt

It hurts to take in light to become better

like, not, muscular

Aftermath

- Coaches trained in CPR and AED were present but not utilized
- County Coroner reveals HCM was in family history
- HCM is confirmed in autopsy
- Family wants EKG testing for all athletes

Is EKG Screening Needed?

- 2014 NATA Position Statement – NO
- 2013 Journal of American College of Cardiology
 - High School athlete study – NO
 - Need standardized form first
- 2011 Clinical Journal of Sports Medicine
 - Yes
 - Benefits out weigh the negative

Pros vs Cons

- Cost
- Administration
- False-Positives
 - 2014 NATA Guidelines
 - “Such testing is not cost effective in a population at relatively low risk for cardiac abnormalities, and it cannot consistently identify athletes at actual risk”



Moving Forward

- Conversation w/ Team Docs and other medical providers
- Speak w/ school administrators
- Who bares the cost?
- Should it be optional?

Future of PPEs

- Online administration?
 - Privit, Dragon Fly
- Electronic signatures?
- Can we get to paperless physicals?
- Reimbursement for Physicals

Where are we going?

- Must answer all questions for submission
- Forms are saved on server with remote access
- Information entered at each station

Bottom Line

- Keep flow moving. Know where bottlenecks occur.
- Utilize as many providers and volunteers as possible.
- Talk with Med. Director about EKG.
- Check paperwork, especially History
- Research if applicable.

Emergency Action Plans

- From design to implementation



Program Goals

- Identify different components of emergency action plans
- Identify the AT's role in development of emergency action plans
- Identify other medical provider's role(s) in the development of EAP's

Program Goals

- Identify equipment and resources needed for implementation of EAP's
- Identify routines and mechanisms to practicing the coordination and effectiveness of developed EAP's

2013 JAT Recommendations

- Each school should have an EAP with facility specific details
- Designed by school administrators, medical personnel, coaches, and local EMS providers.

EAP Components

- Establish an efficient communication system to activate EMS at each venue
 - Cell Phones = signal problems
 - Land Lines = outside lines



EAP Components

- Establish communication system to alert on-site responders to the location of the emergency
 - Cell Phones
 - Radios
 - Land Lines



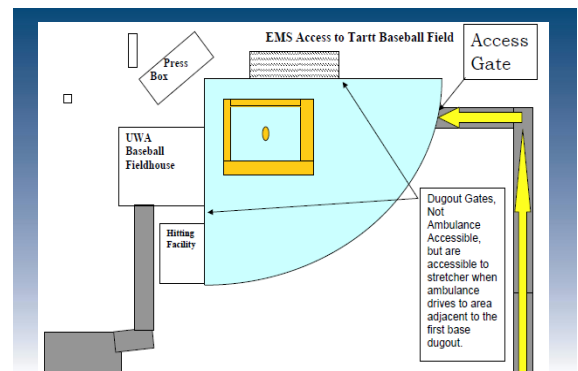
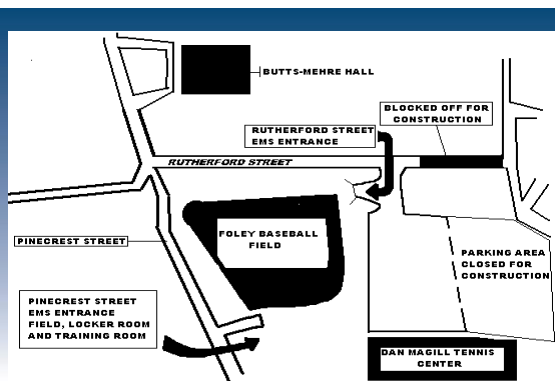
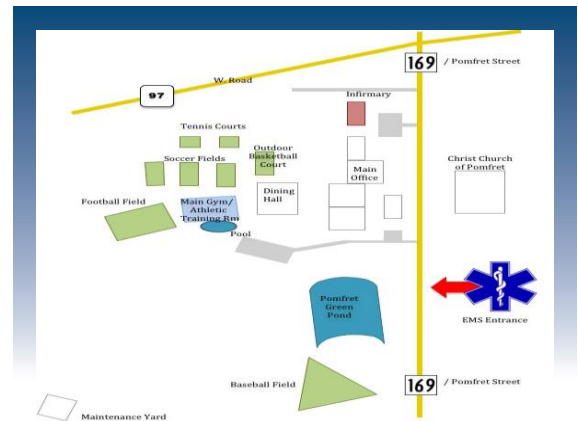
EAP Components

- Post the EAP at each venue, including a list of emergency numbers, map, and directions



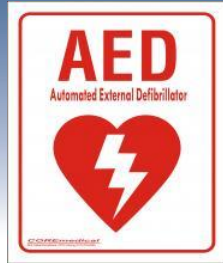
Emergency Numbers

- 911 or alternative
- Doctors
- Dentists
- Other Specialist
- Poison Control
- Fire / Police
- School Administrators
- Local Hospitals



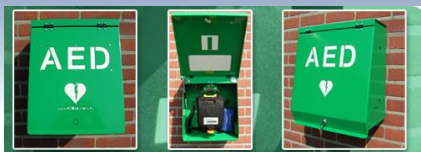
EAP Components

- Post the specific location of all emergency equipment
 - AED
 - Bag Valve
 - Splints
 - Disposable Supplies
 - Epi Pen
 - Inhalers
 - MD's requests



EAP Components

- Locate AEDs to allow immediate retrieval and use w/in 3 minutes. 1 minute is ideal.
 - Drezner 2009 Study, 1710 schools for 6 months
 - 36 sudden cardiac issues
 - 83% received shock, 64% lived



EAP Components

- Provide a readiness check of emergency equipment before each activity.



EAP Components

- Maintain equipment, including battery and lead replacement per manufacturers' guidelines.
 - We use old pads for hair removal



EAP Components

- Secondary Tips
 - Coaches need FA/CPR Training



EAP Components

- Secondary Tips
 - No activity until all involved have practiced and are familiar with plan
 - The individuals involved in carrying out the EAP have been trained in automatic external defibrillation, cardiopulmonary resuscitation, first aid, and prevention of disease transmission. There is no evidence or documentation of training and practice of the EAP. Specifically, when interviewing Assistant Strength Coaches on August 2, 2018, there was no recall of EAP training for their staff.
 - Make changes as facilities are renovated

Indiana State
University
March 2019

How and When to Practice

- Should be done before start of school year
 - Summer is advantageous, if all staff available
- Location of emergency equipment
- Gates and Access Points
- Communication Guidelines

Changes in EMS Care

- Contact local EMS provider(s) as soon as possible to professionally review, discuss and rehearse current protocols for immobilization and transfer of a suspected spine injured athlete as recommended by their medical director and/or state agency , including equipment intensive patients

Changes in EMS Care

- Update Emergency Action Plans if necessary and be prepared for all aspects of the plan.
- Actively seek new evidence through advanced training, solicitation of expert advice and by remaining up-to-date on the latest scientific research in this important area

Changes in EMS Care

- Keep in mind that the current NATA Position Statements include language that allows for full body immobilization using methods other than a long spine board (e.g., vacuum mattress) and for removal of the athletic equipment in the pre-hospital setting, depending on circumstance.

Equipment Removal



Info from Korey Stringer Ins.

- 4 Roles in Emergency Care



4 Roles

1. Establish scene safety and immediate care for athlete
 - Medical Provider



4 Roles

2. Activation of EMS
 - Choose someone calm, familiar with location, and well spoken



4 Roles

3. Equipment Retrieval
 - Colored bags
 - We use red for splints and yellow for AED



4 Roles

4. Direct EMS to scene
 - Needs keys to gates
 - Go cart if available





Weather Policies

- Lightning
- Tornado



Lightening Protocols

- Designate a person to monitor threatening weather and to make the decision to remove a team or individuals from an athletics site or event
- Monitor local weather reports each day before any practice or event.

Lightening Protocols

- Be informed of National Weather Service (NWS) issued thunderstorm “watches” or “warnings,” and the warning signs of developing thunderstorms in the area, such as high winds or darkening skies
- Know where the closest “safer structure or location” is to the field or playing area, and know how long it takes to get to that location

Lightening Protocols

- Lightning awareness should be heightened at the first flash of lightning, clap of thunder, and/or other criteria such as increasing winds or darkening skies, no matter how far away.

How to Monitor

- Telvent Weather Radar
- Sends text or emails to staff



How to Monitor

- StormHawk
- Reliable
- Can have issues cell coverage



How to Monitor

- SkyScan
- Very unreliable



How to Monitor

- Flash to Bang
- Count from Flash of Strike to Clap of Thunder and divide by 5



What If?

- Baseball/Softball game
- Detection w/in 10 miles
- Coach wants to tarp the field



Tornado Safety

- Lowest Floor
- Away from Windows
- Under something Sturdy

Athletes w/ Allergies

- Do you have a policy in place?
- Do you carry an Epi-Pen?



Asthma

- 2005 NATA Position Statement
- Recommend 2 Rescue Inhalers
- Stress Education
- Also look at having a peak flow



Peak Flow Readings

- Green Zone >80% of best
- Yellow Zone 50% to 80%
- Red Zone <50% of best

Type 1 Diabetes

- 2007 NATA Position Statement
- Need care plan established for each athlete w/ Type 1



Care Plan

- Blood Glucose Monitoring Guidelines and exclusion values
- Insulin Therapy Guidelines
 - Type
 - Dosage
 - Adjustments
- List of other meds

Care Plan

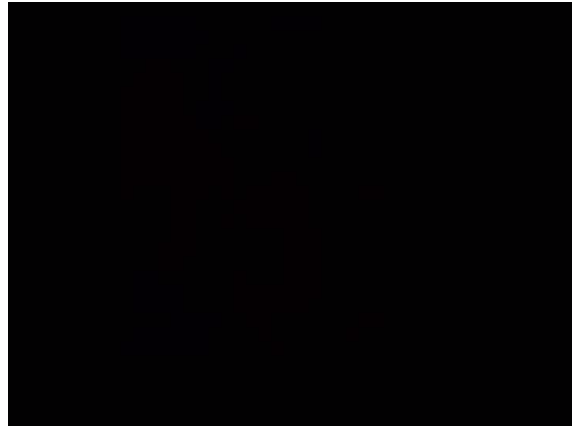
- Guidelines for hypo and hyperglycemia
- Emergency Contact Info
- Medic Alert Tag

Supplies Needed

- Copy of Care Plan
- Glucose monitoring equipment
- Treatment supplies for hypo
 - Tablets, sugar packs, OJ, non diet soda
- Sharps
- Extra Batteries

My Favorite Event

- Steeplechase at Callaway Gardens



Biggest Sponsor



Grounds



Patient Populations

- Kids in play area – broken arm
- Jockeys – 3 spine boarded last year
- College age – boot to the face
- 50-year-old power drinkers – cardiac issues
- “Hat Lady”

How do we cover it all?

- Medical Director(s) – ATC Dir. and MD
 - Coordinate care from tower
- Nurses and Athletic Trainers
 - 2 aid stations and on course spotters
- 2 Roving EMS Patrols
- 1 Associate Physician at Main Aid Tent



Pre-Race Meeting

- Injury Protocols
 - Fall with remount
 - Fall, no remount, walks away
 - Fall, no remount, unable to ambulate
 - Fall, catastrophic
- Radio Communication

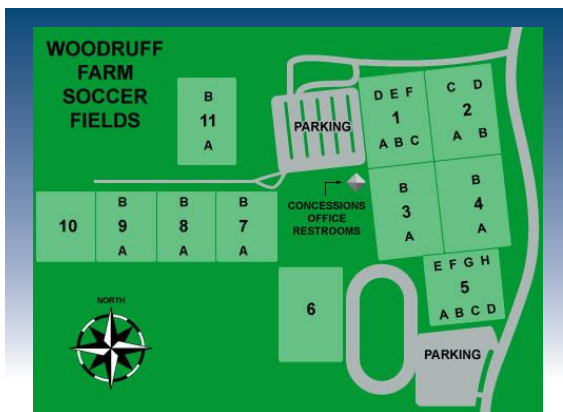


GA State Rec Cup Soccer



How do we cover?

- 5 Athletic Trainers
 - Cover 11 Fields
 - Memorial Day Weekend
- Complex Director
 - Security
 - EMS Access
 - Communication



Bottom Line

- Be prepared...
- Don't be afraid to say NO...
- Large events need pre-planning meeting(s) and event day meeting
- Develop relationships w/ EMS and utilize their experience
- Practicing EAP's will allow you to find flaws and make corrections

Sports Medicine Team

- Building a team for the team
- Business models for the future



Program Goals

- Identify the different members of the sports medicine team
- Identify the roles and responsibilities for members of a sports medicine team



Team Members

- We all remember the umbrella



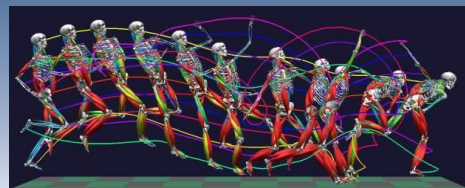
Performance Enhancement

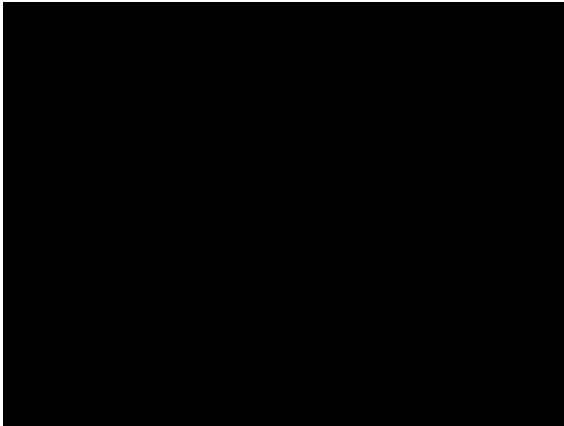
- Exercise Physiology = Effects



Performance Enhancement

- Biomechanics = Physics of Sport





Performance Enhancement

- Sport Psychology = Mental Game



Performance Enhancement

- Strength and Conditioning



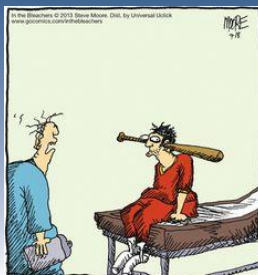
Performance Enhancement

- Personal Trainer



Injury Care and Management

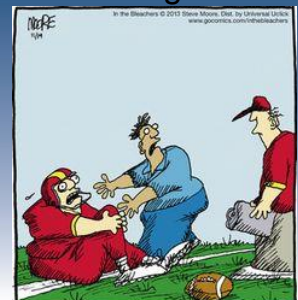
- Orthopaedic Doctor



"Yes. I can remove it at great risk and expense. Or ... we leave it in and you are blessed for the rest of your life with an excellent conversation starter."

Injury Care and Management

- Athletic Trainer



"We won't know until the MRI, but I'm certain that it's either an 'ouchie' or a 'boo-boo' ..."

Injury Care and Management

- Sports Physical Therapy



Injury Care and Management

- Sports Massage



Injury Care and Management

- Sports Podiatry



Injury Care and Management

- Sports Dentistry



Any Others?



Injury Care and Management

- Eye Doctor



Injury Care and Management

- Neurologist

Expert diagnoses and treatments for many neurologic conditions.



Injury Care and Management

- Chiropractor



Injury Care and Management

- Plastic Surgeon



Injury Care and Management

- Primary Care



Sports Medicine Team

- Nutritionist
- Pharmacist
- As specializations grow, so will our list of providers

How to manage team?

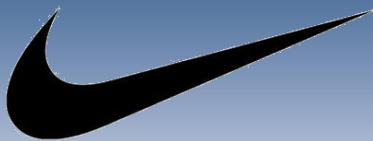
- All participants should understand the defined roles
- Must have one deciding voice
 - 2014 JAT Best Practices
- All should be moving toward same goal.
 - The safety and welfare of the athlete
 - “Athlete centered medicine”
 - 2014 JAT Best Practices

My kids rule!



Marketing

- Brand Recognition
- What are some of the most recognizable brands out there?





Getting the word out...

- Brochures
- Coaches cards
- Social Media
- TV/News
- SWAG

Coaches Cards



Ledger Article



TV Spot



Healthcare Reimbursement

- Affecting all aspects of healthcare
- Our PTs saw 40% more patients in 2014 with a 20% reduction in reimbursement.



Where does that leave me?

- Community Service – Indirect Revenue
 - Tracking appts, MRI's, and surgeries
 - Minimal cost to schools
 - Saturday Clinics
 - Function off grants and donations
- Fee for Service – Direct Revenue
 - Covering all costs

Hughston Hybrid Model

- Combination of both
 - Utilizing direct revenue generation to help offset losses occurred by secondary school coverage
 - Keep Dr. Hughston's dream alive

"Really, everything I have done to be successful in sports medicine is just a culmination of all the things that I learned from Dr. Hughston. I merely added my own personality and flavor to the way I do things, but I owe everything to him and his unrelenting pursuit of the finest patient care."
James R. Andrews, MD



Physical Reimbursement

- Many insurance providers cover the cost for well care visits
- ICSM, Vivature

GA House Bill 93

- Signed by Gov. Barnes on April 19, 1999
- AT's could bill since 1977
- Strengthened the platform



Reimbursement

- Athletic training evaluation code is 97005 and the re-evaluation code is 97006.
- Athletic Trainers would normally bill using the physical medicine and rehabilitation codes, series 97000

Emerging Practice Areas

- Industrial
- Military
 - Staffing Companies
- Police/Fire/EMS



ATs as Athletic Dept. Employees

- Does this create a conflict of interest?
- Does it open us up to future litigation?
- Work Environment...

AT's as Outreach

- As reimbursement drops, so will funding for outreach
- Will need options for bringing in revenue to show viability

AT's as Teachers

- Different struggle
- From 2008 to 2014
 - Alabama spends 20.1% less per student
 - Georgia spends 14.8% less per student
- Fundraising for help or supplies

Entry Level Shift

- Your thoughts?

Fund Raising

- Want lots of bang for the buck!



Why Fundraise?

- Additional Staff
- Special Projects
- Equipment



Play Lets Make a Deal

- Housing
- Meal Plans
- Tuition and Fees
- “Worst thing you can hear is no”



Where do we go from here?

- Stop settling for horrible hours at low pay
 - Need to break the stereotype
- Let people know about what you are doing
 - Spread the word...
- Market your brand in a positive way
 - Be careful with Social Media

Bottom Line

- Organize a comprehensive sports medicine team.
- Market yourself and the profession.
- We all have a responsibility to help the profession.
- You didn't go to school for free, stop working for free
- Look into ways to generate direct revenue or fundraising