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Compliance with Institutional Emergency Action Plans as
Delineated by the Nata Position Statement on Emergency
Planning in Athletics

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COMPLIANCE WITH INSITUTIONAL EMERGENCY ACTION PLANS AS
DELINEATED BY THE NATA POSITION STATEMENT ON EMERGENCY
PLANNING IN ATHLETICS

BY
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ABSTRACT

Context: NATA position statements are based in science, drawing from peer-reviewed research on a variety of subjects (NATA, 1950). Although these position statements are in place to provide the proper development, preparation, and implementation of EAPs, there is no governing body regulating the *compliance* of a given institution to the recommendations set forth in the NATA position statement on emergency planning in athletics. Without someone to hold universities accountable to adhere to the recommended standards, universities have no impetus to follow them diligently. Currently, in the field of Athletic Training there is a lack of research about the compliance of EAPs and how closely universities follow the criteria outlined by NATA.

Setting: Data was collected in collegiate institutions only. **Objective:** To determine the compliance of collegiate universities in following NATA guidelines for “Emergency Planning in Athletics” established in 2002. **Patients or other participants:** A total of 151 participants (75 [49.6% male and 76 [50.3%] female), were recruited using the National Athletic Trainer’s Association email database. Any athletic trainer who worked outside of the collegiate setting was excluded from the study. The response rate was (15.1%). **Intervention:** Data was collected using the web-based survey instrument, Qualtrics, consisting of 9 sections: (1) demographics, (2) general questions, (3) rehearsal, (4) communication, (5) emergency team and sports medicine staff, (6) equipment and supplies, (7) emergency transportation, (8) documentation, and (9) risk manager. **Main Outcome Measure:** Data analysis was run to determine level of compliance amongst the respondents. **Results:** For the sake of this study the benchmark for compliancy was set at 80%. None of the athletic trainers that responded were 100% compliant let alone 80%

compliant with the position statement. When NCAA divisions I and II were combined and compared to the remainder of the institutions (NCAA division III, NAIA and NCCAA), there were significantly more institutions in compliance in division I and II at the 43% compliance level. **Conclusion:** Based on the findings universities are not compliant with the NATA position statement on emergency planning in athletics. Development of an EAP, rehearsal of the EAP in addition to the availability of appropriate medical equipment at sporting events will ensure that the safety and treatment conditions of all fans and athletes are of the highest priority. Until these policies and procedures are the standard level of preparedness being enforced, universities will remain non-compliant and at legal liability. **Key words:** Athletic Trainer, Emergency Action Plan (EAP), National Athletic Trainers Association (NATA), and Compliance

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Table 1

Demographic of population (N=151)

	<u>Frequency (%)</u>
Sex	
Male	75 (49.7)
Female	76 (50.3)
Years of Experience	
1-4	38 (25.2)
5-10	60 (39.7)
11-15	18 (11.9)
16 – 20	14 (9.3)
>20	21 (13.9)
Role	
AD of Sports Medicine	4 (2.6)
Head AT	54 (35.8)
Assoc/Asst AT	80 (53)
GA/Intern	9 (6)
Other	4 (2.6)
Athletic Association	
NCAA D1	55 (36.4)
NCAA D2	47 (31.1)
NCAA D3	27 (17.9)
NAIA	7 (4.6)

NCCAA	6 (4)
<i>Missing</i>	9 (6)

Table 2

Compliance in accordance to section

	Compliant N (%)	Non-Compliant N (%)
EAP	151 (100)	0(0)
Rehearsal	22 (14.6)	129 (85.4)
Communication	134 (88.7)	17 (11.3)
Emergency team	7 (4.6)	143 (93.7)
Equipment	3 (2)	140 (92.7)
Transportation	36 (23.8)	113 (74.8)
Documentation	8 (5.3)	140 (92.7)

Table 3

Institutions Compliance and Compliancy Score Out of a Total of 7 Sections

Number of sections compliant	Number of institutions compliant N (%)	Percent compliance score*
Complaint in 1 section	16 (10.6)	14.3%
Compliant in 2 sections	76 (50.3)	28.5%
Compliant in 3 sections	45 (29.8)	42.8%
Compliant in 4 sections	12 (7.9)	57.1%
Compliant in 5 sections	2 (1.3)	71.4%
Compliant in 6 sections	0 (0)	85.7%

*Based off NATA 2002 Position Statement

**Number of Institutions compliant – N = Number of institutions, (%) is the percent of institutions out of the 151 that responded to the survey.

Table 4

Athletic Association and Number of Institutions Compliant With 3 out of 7 sections (42.8% Compliancy Score)

	NCAA D1 & D2	D3, NAIA, NCCAA
Non Compliant		
Count	56	31
Expected Count	62.7	24.3
Compliant		
Count	47	9
Expected count	40.3	15.7

Table 5

Symmetric Measures of Institutions Compliant with 3 out of 7 sections: Significance

	Value
Nominal by Nominal Contingency Coefficient	*. 208
N of compliancy in 3 out of sections.	143
Approximate significance	.011

* P<0.011

CHAPTER 1

INTRODUCTION

Medical emergencies are unpredictable and can arise at any time. Without warning, life and limb threatening injuries can occur during physical activity or any level of participation in athletics. Emergency situations arise spontaneously from something minor (e.g., a scrape, strained muscle, sprained ankle) to something far more serious, such as cardiac arrest or a spinal injury. Proper emergency management is imperative and should be handled by trained allied health professionals (Andersen, 2002). Allied health professionals include physicians, EMS personnel, and certified athletic trainers. The importance of these allied health professionals working in conjunction with one another cannot be stressed enough when it comes to addressing a medical emergency.

Because emergency situations can arise at any time it is important to develop and implement an effective emergency action plan (EAP) in order to provide the best possible care for victims (Courson, 2007). An EAP is a university specific blue print that provides step-by-step guidelines to personnel that includes, necessary, best practice protocols to provide the most efficient medical care in case an emergency situation arises. An EAP also includes education and training in the use of essential supplies and emergency equipment, as well as instructions regarding implementation (Andersen, 2002). Fortunately, most universities have an EAP due to the current mandate by the National Collegiate Athletic Association (NCAA). However, it is believed that most universities fail to review, rehearse and revise the EAPs to meet the guidelines put forth by the National Athletic Trainers' Association.

An emergency situation requires involvement of emergency medical personnel and administrators associated with the institution. In the university setting, the primary coordinator of an EAP is the certified athletic trainer. Athletic trainers are health care providers, with extensive training in emergency care, who work under the direction of an attending physician to provide a multitude of services e.g., clinical diagnosis, emergency care, therapeutic intervention, rehabilitation and preventative services, to mitigate the risk of injury (National Athletic Training Association [NATA], 1950). The National Athletic Trainers' Association (NATA, 1950) provides a code of ethics and position statements meant to guide the decisions made by emergency personnel in a number of situations; specifically, the Emergency Planning in Athletics guide provides this type of instruction (NATA, 1950). The organization develops position statements based on research, which are comprised of recommendations and best practice standards on how to handle specific injuries, illnesses, and emergency situations in athletics.

All athletic training facilities have a duty to create an effective plan to help prevent and execute any and all medical emergencies (Andersen, 2002). Therefore, EAPs are needed in athletic settings for two reasons: professional responsibility and legal necessity.

At the professional level, governing bodies associated with athletic competitions and fitness and sport participation (e.g., NATA Education Council, NATA Board of Certification, American College of Sports Medicine, American College of Cardiology) recommend that institutions develop an EAP for athletic programs (Andersen, 2002). Educational competencies mandated by the Commission on Accreditation of Athletic Training Education (CAATE), the accrediting body for athletic trainer education, embeds

the knowledge of creating, implementing and executing an EAP into the curriculum, and is endorsed by the NATA. Required tasks of an athletic trainer as stated in the NATA position statement are having knowledge of the key components of an emergency plan, the ability to recognize and appraise emergency plans, and the ability to develop emergency plans (Andersen, 2002). According to the NATA position statement, athletic trainers have a professional obligation to develop and execute emergency plans within their job setting (Andersen, 2002).

EAPs are also borne out of legal necessity. Medical personnel, including athletic trainers, have a legal duty to ensure high quality care of all sports participants and spectators as reasonable and prudent professionals (Andersen, 2002). All allied health professionals are measured by a standard of care, which provides accountability for all actions and provides legal precedence (Andersen, 2002). The standard of care holds both the practitioners and the governing body of those practitioners accountable for all actions and decisions being made by them. A key legal need for an EAP is the concept of foreseeability. Several legal claims have stated that there was delayed care for an injured athlete and that emergency response teams were careless and neglected to provide appropriate care (Andersen, 2002). This highlights the need for a well-prepared and promptly administered EAP. “Furthermore, members of the sports medicine team have both legal and professional obligations to perform this duty to protect the interests of both the participating athletes and the organization or institution. At best, failure to do so will inevitably result in inefficient athlete care, whereas at worst, gross negligence and potential life-threatening ramifications for the injured athlete or organizational personnel are likely.” (Andersen, 2002, P. 101).

Within collegiate athletic departments these plans should meet the recommendations of the NATA position statement on “Emergency Planning in Athletics” (Andersen, 2002). The present study will aim to discover the compliance of universities via survey on rehearsal, communication, emergency team, medical equipment, emergency transportation and documentation of their EAP.

Statement of Problem

An EAP is a working document that is put in place to establish accountability and administer organization during a medical emergency. It is believed that many institutions are not compliant with certain recommendations that are published by the governing organizations. The position statements provided by the NATA and NCAA are evidence-based recommendations on how to best handle medical emergencies. Although it is not mandatory to abide by these specific documents when creating an EAP, failure to meet the standard could be considered negligence (Andersen, 2002). NATA position statements are based in science, drawing from peer-reviewed research on a variety of subjects (NATA, 1950). Although these position statements are in place to provide the proper development, preparation, and implementation of EAPs, there is no governing body regulating the *compliance* of a given institution to the recommendations set forth in the NATA position statement on emergency planning in athletics. Without someone to hold universities accountable to adhere to the recommended standards, universities have no impetus to follow them diligently. Currently, in the field of Athletic Training there is a lack of research about the compliance of EAPs and how closely universities follow the criteria outlined by NATA.

Purpose of the Study

The purpose of this study is to evaluate collegiate adherence to the guidelines outlined in the NATA's position Statement "Emergency Planning in Athletics", established in 2002.

Research Hypothesis

1. It was hypothesized that 100% of universities will have an EAP in place.
2. It was hypothesized that less than 80% of the athletic trainers surveyed who reported having an EAP will meet the recommendations by the NATA in the category of rehearsal.
3. It was hypothesized that between 80-90% of the athletic trainers surveyed who reported having an EAP will meet recommendations by the NATA in the category of communication.
4. It was hypothesized that less than 80% of the athletic trainers surveyed who reported having an EAP will meet the recommendations by the NATA in the category of emergency team preparation.
5. It was hypothesized that less than 80% of the athletic trainers surveyed who reported having an EAP will meet the recommendations by the NATA in the category of equipment readiness.
6. It was hypothesized that between 80-90% of the athletic trainers surveyed who reported having an EAP will meet recommendations by the NATA in the category of emergency transportation.

7. It was hypothesized that less than 80% of the athletic trainers surveyed who reported having an EAP will meet the recommendations by the NATA in the category of rehearsal of documentation of rehearsal and emergency activation.
8. It was hypothesized that overall compliance amongst all survey participants will be 80% within all categories.

Operational Definitions

1. American Heart Association – Organization that provides insight on appropriate care and prevention of cardiac illness (American Heart Association [AHA], 1924).
2. American Red Cross – Organization that provides education in areas such as emergency assistance, disaster relief, and disaster preparedness (American Red Cross, 1881).
3. Automated External Defibrillator (AED) - Portable electronic device used to analyze heart rhythms and deliver shock, to re-establish heart rhythm if necessary, and in order to revive from cardiac arrest (Nguyen, 2018).
4. Backboard – Tool used to immobilize an individual that has suffered a head neck or back injury (Vickery, 2001).
5. Board of Certification (BOC) – Governing organization for athletic trainers. The board insures that all certified athletic trainers meet the standards of practice and continuing education requirements. (Board of Certification For The Athletic Trainer [BOCATC] 1989).

6. Cardio Pulmonary Resuscitation – Medical procedure comprised of compressions and rescue breathing to help restore the blood circulation to the heart (Atkins, 2015).
7. Certified Athletic Trainer- A licensed health care professional that is educated in how to prevent, examine, diagnose, treat, and rehab acute and chronic injuries, as well as other medical conditions. (NATA, 1950).
8. Communication Protocols – Established means of communication during an emergency used to relay information to the entire emergency response team. (Andersen, 2002)
9. Compliance- Meeting the standards, policies, and/or laws put forth by an organization to accomplish a goal. (Achieving 80%+ compliance in each category as well as 80%+ compliance overall will be considered “compliant” for this study.)
10. Emergency Action Plan (EAP)- A written document used to facilitate and organize employer and employee actions during workplace emergencies (Occupational Safety and Health Administration [OSHA], 1970).
11. Emergency Medical Services (EMS)- Medical Services, which aim to treat and transport illnesses and injuries that require timely (urgent) response (Al-Shaqsi, 2010).
12. Guidelines – Statement used to determine course of action. It is neither binding nor enforced.
13. Litigation – Process of taking legal action.

14. National Athletic Training Association (NATA)- Professional association for certified athletic trainers (NATA, 1950).
15. National Collegiate Athletic Association (NCAA) – Organization dedicated to the well-being and success of college athletes (National Collegiate Athletic Association [NCAA], 1910).
16. Negligence – Failure to use proper care when treating a patient, which results in injury or harm (Pandit, 2005).
17. Sudden cardiac arrest – Unexpected loss of (vitals) heart function, consciousness and breathing that result in either death or unsuccessful resuscitation (Landry, 2017).
18. Occupational Safety and Health Act of 1970 (OSHA)- Organization designated to assure a safe and healthy work environment by enforcing standards (OSHA, 1970).
19. Risk Manager – Individual who is in charge of reducing legal liability by addressing potential problems and ensuring safety standards are met.
20. First responder – A person who has specialized training and is the first to arrive and provide care at an emergency scene (American Red Cross, 1881).

Assumptions

1. It was assumed that all participants would respond honestly to the survey.
2. It was assumed that the survey would be read, understood, and completed by participants without difficulty.

3. It was assumed that participants would not fabricate answers to maintain a positive reputation when reflecting on preparation for emergency planning.
4. It was assumed that division one schools have more funding to spend towards certifications and in-services for emergency planning.

Limitations

The limitations of this study include:

1. Lack of NATA to provide measurable recommendations for emergency planning in athletics.
2. Respondents (unintentionally or intentionally) may have not been truthful or forthcoming in their responses.
3. The number of completed surveys may not have been high enough to draw generalizable conclusions.
4. Some participants may have decided not to take the survey due to lack of time or interest.
5. The current study was limited to only collegiate athletic trainers.
6. It is not possible to infer that the athletic trainers were surveyed represent trainers all over the United States, nor can their responses be considered indicative of policies and procedures at all universities.
7. Athletic trainers that participate in this study may have lacked knowledge or may have not be as familiar with all aspects of the EAP, such as development, review, and rehearsal.

Delimitations

1. Participants of the study were limited to those currently in the collegiate athletic training setting. Other settings, such as high schools, professional team and clinics are not included in this study.
2. The results of the survey are anonymous and were available to the researcher immediately following completion.
3. There were no physical requirements for this survey and therefore participation will not be limited.

Inclusion

Survey participants were included if they were a member of the NATA research committee professional networks or the researcher's personal network. The survey was shared with the NATA research committee electronically for distribution. NATA distributed the survey to 1,000 points of contact.

Exclusion

This study aimed to target employed and practicing athletic trainers in the university setting. Therefore excluding athletic training undergrads and those athletic trainers who are no longer practicing.

Significance of the Study

This study aimed to determine if universities are compliant with the recommendations provided by the NATA position statement on "Emergency Planning in Athletics"

published in 2002. When dealing with potential emergency situations it is crucial to have an EAP in place (Courson, 2007). An EAP aims to outline the steps that need to be taken by all members of the emergency response team. Therefore, the importance of being prepared for all potential emergencies is transmitted through educating all stakeholders and emphasizing the importance of safety of all athletes and institution staff. Emergency situations have the potential to occur within all university settings and to any participating individual or attendees. As a part of their education nationally certified athletic trainers learn about developing and implementing EAPs, as well as the role they undertake when an emergency situation occurs.

Although most schools have an EAP in place, often times is not distributed, reviewed, or rehearsed with all members of the emergency team sufficiently for all parties to feel comfortable in its execution. The institution's sports medicine team, athletic trainers, and physicians have a legal responsibility to provide the best care to all participants of any physical activity; therefore, it is important that they are prepared for any and all emergencies, life-threatening or not. This study aimed to investigate whether or not best practices (as recommended by the NATA position statement) are taking place at the university level in athletics for potential emergency situations. Furthermore, this study may be utilized to identify potential weaknesses in different aspects of emergency planning such as rehearsal, communication, emergency team and sports medicine staff readiness, emergency equipment, emergency transport, and documentation.

In conclusion, there has been best practice recommendations put forth by the NATA since 2002. However, a lack of oversight from the national organization that set forth the recommendations for proper implementation persists. Because these are only

recommendations and not regulated policy, most institutions do not follow them, which can lead to unsafe environments for athletes, as well as potential liability issues when implementing and executing an EAP. The findings of this study aimed to determine if there is a need for a designated position to oversee EAP compliance and liability within university athletic departments. The present study may benefit athletic programs that are seeking to better prepare for athletic related emergencies and minimize litigation.

CHAPTER 2

LITERATURE REVIEW

Background

Catastrophic incidents in intercollegiate sports are rare, but when they do occur the results can be devastating to everyone involved (Harmon, 2007). One such incident occurred on May 29, 2018 when a Maryland University student died suddenly following a team workout. Approximately 100-150 annual deaths occur during competitive sports in the United States (Link, 2012). It has been determined that there are ten conditions that contribute to the sudden death of athletes in any age group, including: asthma, catastrophic brain injuries, cervical spine injuries, diabetes, exertional heat stroke, exertional hyponatremia, exertional sickling, head down contact in football, lightening, and sudden cardiac arrest (SCA; Casa 2012). “SCA is the leading cause of sudden death in athletes, accounting for 75% of all deaths during exercise and sport” (Drezner, 2005, p.16). Being able to recognize the many reasons for sudden death allows universities to create and implement EAPs, which provide detailed guidelines for prevention, recognition and treatment (Casa, 2012). Athletic trainers often get comfortable and develop a false sense of security from low incidence rates of catastrophic injury. This false sense of security often leads to under preparation. To be prepared, an EAP needs to be put in place. An EAP is a documented, established blue print comprised of a step-by-step process, which guides emergency response personnel through specific necessary best practice protocol to provide the most efficient medical care to any victim. According to Courson et al. (2007) the EAP needs to incorporate detailed instructions for each athletic venue and include emergency communication, emergency equipment, medical

emergency transportation, emergency personnel, and venue directions, including a map. EAPs need to be reviewed and rehearsed frequently in order to make sure staff and emergency personnel are familiar with its execution to ensure the safety of athletes and spectators.

Most athletic organizations have EAPs in place to assure all participants and spectators are safe during an athletic event. These organizations and their athletic training programs have a duty to create an effective plan to help prevent and handle any and all medical emergencies. The EAPs that are developed should allow for implementation of immediate and appropriate medical response when necessary. Sporting events are highly susceptible to accidents and injuries. Proper preparation can minimize these injuries and will involve identification, planning, and practice for medical emergencies (Andersen, 2002). There are several national organizations, such as the NATA and the NCAA, that have published guidelines for emergency action planning in athletics. This position statement was conceived and developed in an effort to help athletic organizations implement effective EAPs, as well as provide consistency across athletic organizations.

The Occupational Safety and Health Administration (OSHA) defines an EAP as a written document whose purpose is to facilitate and organize employer and employee actions during workplace emergencies (OSHA, 1970). EAPs are a blue print that clearly state each step of execution for rapid emergency medical response and are developed to provide the best quality of care is provided to an athlete at a given time. The primary goal of an EAP is to minimize time needed to provide immediate care and to increase management efficiency when a life-threatening situation arises (Swartz, 2009). Sports medicine teams are instructed by OSHA to create an EAP, based on guidelines provided

by the NATA and the NCAA, to ensure the appropriate response to a medical emergency based on best practices. The NATA promotes awareness of certain issues faced in athletic training by publishing position statements regarding best practices for athlete care (Gould 2016). Each position statement written by the NATA refers back to the position statement on Emergency Planning in Athletics written in 2002 as a standard for handling emergencies. For example, both Swartz 2009, and Trenton 2016 state, “those responsible for the care of athletes should be familiar with the National Athletic Trainers Association position statement on emergency planning in athletics” (Swartz, 2009, P. 308, Gould, 2016, P. 823). The NATA guidelines are meant to insure proper organization and administration of emergency care via proper education and training, maintenance of emergency equipment and supplies, appropriate use of personnel and formation and implementation of the EAP (Andersen, 2002). To establish organization, it is recommended that the following categories be included in an EAP: sports medicine staff and emergency team, initial patient assessment and care, emergency communication, emergency equipment and supplies, venue locations, emergency transportation, emergency care facilities, and lastly, legal need and documentation.

Education

Each institution should have an EAP, which is comprehensive, practical, and flexible enough to adapt to any emergency situation (Andersen, 2002). The EAP must have a clear explanation of expected execution leaving no room for error, and all members of the medical team should be educated on the EAP and familiar with responding emergency medical services (EMS). The EAP should be documented in

detail and distributed among certified athletic trainers, physicians, athletic training students, institutional safety personnel, administrators and coaches (Andersen, 2002). The EAP should be created with input from all parties involved, and approved reviewed by head team physician (Casa 2015). Every staff member should have a copy of the EAP and a clear understanding of their role in its execution. Ideally, all potential members of the emergency response team should be familiar with and trained in how to execute an EAP. Within the written document there should be a clear understanding of the personnel involved in the execution of the EAP, and the qualifications of those carrying out the plan (Andersen, 2002). All members of the medical team should also be certified in cardiopulmonary resuscitation (CPR), the use of an automated external defibrillator (AED), and first aid. This includes all sports medicine professionals, officials, and coaches (Andersen, 2002). In addition, Gould et al (2016) states in the NATA position statement on preventing and managing sport related dental and oral injuries, that all members should be educated on emergency dental care, which includes recognizing signs and symptoms of an acute dental injury. This will make sure that all members are able to provide care until someone with higher credentials, or EMS, arrives. These certifications must be renewed every two years to ensure that continuing education is taking place, as well as to keep all medical professionals up to date on best practices. To continue expanding knowledge on best practices, we must look to empirical research to determine which methods are most effective at mitigating risk. Over the last ten years, there has been a lack of research conducted on the best practices. This research gap is significant; advancing our understanding of best practices may improve proficiency and speed in response to medical emergencies.

Rehearsal

Rehearsal is imperative to the smooth execution of an EAP. It is important that the EAP is reviewed for each facility or athletic venue, and with each emergency medical personnel. The NATA position statement on emergency planning in athletics states that the overall EAP should be reviewed annually or more frequently to establish proper preparation and rehearsal (Andersen, 2002). In addition, Casa et al (2012) agree with Andersen that the EAP should be reviewed and rehearsed annually by all involved staff. Hazinski et al (2004) suggest rehearsing, evaluating, and modifying the EAP at the beginning of each academic year, and periodically throughout the year. It is advised to practice the EAP during the preseason for high-risk sports, such as football in the fall, including the proper techniques for removal of protective equipment. “Individuals responsible for emergency care of athletes should be familiar with sport-specific causes of catastrophic cervical spine injury and understand acute physiologic response of the spinal cord to injury” (Swartz, 2009, P. 307). In order to promote efficient, organized, and timely responses to emergencies it is advised that all medical personnel participate in unannounced practice drills regularly (Hazinski, 2004). It is important to note that EMS often make changes to their protocols (e.g., spine boarding protocol), highlighting the importance of frequent EAP rehearsal (Ellis & Courson, 2014). In addition to protocols changing, equipment and facilities may change as well (Gould, 2016). The EAP is a living document and can be changed at any time. Often, an EAP will be revised if a new best practice is published, the sports venue/location of emergency equipment changes, or, if when rehearsing, a new or more efficient system is discovered. NATA suggests that

documentation is needed after all reviews and rehearsals to indicate any modifications or changes that were made to the EAP (Andersen, 2002).

Communication

Communication is key in the preparation and execution of an EAP. Incorporating communication with local emergency medical services and emergency care facilities is a crucial part of an EAP (Swartz, 2009). As stated by the NATA, EAPs should define a clear mechanism of communication to relay information to all emergency care providers and emergency transportation (Andersen, 2002). The EAP should be the mechanism that unites athletic trainers, EMS personnel, and other emergency members to provide the best medical care in a quick and effective manner. Effective communication is imperative to the timely response of any emergency. It is suggested that there should be multiple means by which to communicate during an event (Andersen, 2002). This is recommended so that if any single point of communication fails there is an alternate means to share critical information. For this reason, it is crucial to have access to a cell phone, landline telephone, hand radio, and/or walkie-talkie in order to contact the necessary personnel. When in communication with EMS it is necessary to have detailed and precise location information to ensure they know how to navigate to the event. Casa (2012) suggests posting addresses near phones and AED locations. The location information is imperative when contacting EMS; for example, cell phones reach numerous EMS systems (city, county, state) and will not provide a precise location (Casa, 2012). By using a landline telephone an accurate location can be automatically determined by an EMS operator because the location is static. It is also important to have an alternate form of

communication in the event of a failure in the primary system. Knowing this information, it would be highly advised to incorporate both cell phones and landlines in the EAP communication plan to ensure a timely response from EMS. For communication with EMS to be flawless, all emergency personnel need to understand what information needs to be provided to the central operator and should practice it during EAP rehearsals.

Communication is the cornerstone to executing any plan. For the EAP to work effectively all event staff, visiting athletic trainers, and local EMS need to understand their role and responsibility in the EAP. This will create a more cohesive and positive working relationship prior to any medical emergency.

Emergency Team and Sports Medicine Staff

The implementation of the EAP is reliant on the ability of sports medicine staff to work as a team. The sports medicine team at most universities consists of the athletic trainer, team physicians, athletic training students, team coaches, equipment managers, athletic directors, and EMS. Specific roles are given to each member of the team, which is clearly stated in the EAP, and these roles should be practiced once a year (Ellis & Courson, 2014). Each of the sport medicine team members has the authority to act as the first responder in any medical emergency. A first responder is a person who has been trained to provide care before EMS arrives on the scene. Since the team has this authority it is recommended that the collegiate athletic programs should coordinate their EAPs with local EMS systems (Casa, 2012). As a first responder, each staff member included on the EAP needs to be trained in CPR/AED and first aid. Roles of the team during the EAP

include immediate care of the athlete, emergency equipment retrieval, activation of EMS, and direction of EMS to the scene of the emergency.

Equipment and supplies

The EAP should specify what equipment is needed to carry out required tasks during an emergency, as well as outline where the equipment would be located for easy access (Andersen, 2002). Adequate emergency preparedness includes not only a comprehensive EAP but includes information on and location of emergency equipment such as splints, a spine board, an AED, oxygen, bag valve masks, a first aid kit, a cell phone, and a radio (Rothmier 2007). It is important that each member of the emergency team understands how to operate all emergency equipment and locate the access point(s) for each venue. All emergency personnel should be familiar with all protective equipment manufactures recommendations and specifics for fit and maintenance as well as maintaining integrity to minimize risk of injury (Swartz, 2009). All AED's and EAPs should be located in a highly visible area and be easily accessible to any individual (Casa, 2012). In order to maximize survival an AED defibrillator should be easily accessible. Research has shown that in order to increase survival rates an AED shock needs to be delivered within the recommended 6-minute window from time of collapse (Alem, 2003). This should be taken into consideration when determining the number of available AED devices and their accessible locations (Courson, 2007). All emergency equipment needs to be checked frequently to establish proper working order. The university could be held legally accountable if the emergency equipment is not working properly (Gould, 2016). Early defibrillations can double the chances of survival (Weisfeldt, 2011). That being

said, AHA states that survival rate decreases 7-10% for each minute that passes without CPR or defibrillations (AHA & Drezner, 2009). For this reason, it is imperative to regularly conduct documented inspections of emergency equipment to ensure no malfunctions occur during an emergency situation.

Venue Locations

Sporting events can take place at one or multiple locations, so it is important to have separate plan for each practice or event facility location. All areas to which athletic participation takes place such as practice venues, event venues and training room activities should all be covered in an emergency action plan (Kane, 2008). Each location can vary based on location of equipment, type of equipment, and emergency access. The EAP should be specific to each individual activity venue (Andersen, 2002). It is highly suggested that the EAP be specific to a given location and be posted at that venue by a phone or someplace clearly marked. It should include the address of the venue and specific directions to guide EMS personnel (Casa, 2012). The EAP should be clearly reviewed with all visiting teams prior to any event. This meeting is referred to as a “time out” and includes key components such as the nearest medical facilities and available transportation, should an emergency occur. Host athletic trainers should review the site orientation, equipment available, emergency personnel, and procedures associated with the EAP with the visiting teams medical provider (Andersen, 2002). At neutral sites, the athletic trainer should inquire about available communication with EMS, name of location, location of nearest emergency facility, and the availability of an ambulance to

be at the event site (Andersen, 2002). Being familiar with the venue location and surrounding facilities can be very important in an emergency situation.

Emergency Transportation and Emergency Care Facilities

When the EAP is activated it is implied that ambulance transportation is needed. It is crucial that the emergency personnel be clear and direct EMS route to access the competition field. Routes for EMS should be determined in advance for each venue to provide rapid response (Casa, 2012). If EMS is present prior to an event, communication establishing the plan of action during an emergency is important. For all high-risk collision sports, like football, it is highly advised that there be an ambulance on site. All routes should be clear from all obstructions such as locked gates or barricades (Casa, 2012). Any obstructions need to be opened or removed for EMS arrival. Hazinski et al (2004) suggest EMS conducts a “pre-incident” visit to evaluate the facility to arrange there are no restrictive passages. It is also suggested that designated personnel will facilitate EMS arrival and direct them to the location of the medical emergency.

An EAP requires directions to local medical facilities from all venues, with the facilities being listed based on priority and level of care. The plan should identify care specialists such as oral health for direct referral (Gould, 2016). The facilities listed should be notified of any events and contests being held at the university. If an emergency does occur the facility to which the athlete will be transferred (i.e. hospital or urgent care) should be notified of any injured athletes that they will be receiving prior to the athletes' arrival. Lastly, the medical facility should be included in the EAP development and rehearsal (Andersen, 2002). Proximity and level of care should be considered when

locating a medical facility. As was mentioned previously, it is important to discuss and practice the EAP with administration, medical staff, facility managers, and EMS. The type of material that should be covered in early discussions are things like the proper removal of athletic equipment, such as football helmets and shoulder pads, in the emergency care facility (Swartz, 2009). If certain procedures are not followed when caring for an injured athlete, the athlete could be negatively impacted.

Documentation

Documentation should be an established part of the EAP to ensure medical record keeping is up to date. EAPs should identify a primary individual who is responsible for documentation of actions taken during an emergency, evaluation of the emergency response, emergency training, and equipment management (Denzner, 2007). There should be documentation of both the implementation and evaluation of the plan as soon as it occurs. Forms should be easily assessable to document all outcomes from an emergency event (Hazinski, 2004). It is important to document all actions taken during the emergency. Andersen et al (2002) states that documentation should encompass delineation of the person or group responsible for documenting events, follow up documentation on evaluation or response of emergency situation, documentation of regular rehearsal, documentation of personal training, and documentation of emergency equipment maintenance. Kane et al (2008) suggest that documentation should delineate precise steps taken in event of injury, responsibilities of all staff, treatment provided and clearly state if emergency personnel was summoned. There should also be an evaluation of the emergency response post activation of the EAP. Lastly, there should be

documentation on the training completed in preparation for activating the EAP. The NATA position statement on emergency planning suggests that the EAP be reviewed annually. It should be reviewed with athletic trainers, physicians, athletic training students, institution safety personnel, administrators, coaches, and other first responders (Denzer, 2007). After all EAP rehearsals, modification and revisions of the EAP should be documented.

Currently, there are no recommended institutional personnel that oversee the rehearsal, revisions, implementation, and standards of the EAP. Most schools work as a group to create the EAP and to meet the standards. However, for the purpose of this study it is assumed most schools are not meeting the standards suggested by the NATA. One might suggest there be a position proposed for a risk manager who would take on the responsibility of making sure all EAPs meet the standards of the NATA, are practiced annually, and are executed flawlessly. Designating a risk manager would help ensure that all institutions meet the standards provided, facilitate accountability, and leave little room for error.

Liability

All medical professionals and sponsors of the athletic events share a professional responsibility to provide the best, professional care in an emergency situation to any injured person. Athletic trainers have a legal duty to provide high quality care to all participants and spectators. There is also a standard of care, which is a legal procedure that all allied health professionals have to follow. This standard was put in place to hold practitioners accountable for all actions. The organization shares legal duty amongst all

medical professionals to develop, implement, and evaluate the EAP (Andersen, 2002).

Legal counsel and administration should review all aspects of the EAP prior to distribution and implementation (Andersen, 2002).

By having an EAP in place an institute ensures that they are following what is medically suggested to properly manage emergency situations. EAPs are created and put in place to ensure there is no unnecessary exposure to legal liability (Kane, 2008). The more stakeholders that are involved in the creation and rehearsal of the EAP decrease the amount of personnel liability exposure for each individual (Kane, 2008). In order to avoid liability issues it is imperative to have all emergency planning and executions documented properly. Proper documentation will minimize any misunderstanding on how procedures are followed and executed. Position statements are put in place to provide a guideline for all medical professionals. In addition, it allows all medical professionals to know the core components of an EAP regardless of where an emergency situation will occur. This allows for all EAPs to be different by location and event, but cohesive on what is included. Institutions that adopt and implement the NATA's position statement on emergency planning are better prepared to ensure an efficient response during an emergency situation.

Conclusion

In order to establish proper organization and preparation for a medical emergency it is important to include all of the following in the EAP: sports medicine staff and emergency team, initial patient assessment and care, emergency communication, emergency equipment and supplies, venue locations, emergency transportation,

emergency care facilities, and legal need and documentation. The goal of an EAP as stated above is to arrange a safe and effective response to an emergency and proper preparation for all medical professionals. Care of injured athletes is supported by numerous organizations, which guide athletic trainers medical decisions. These organizations also put out statements and guidelines that support the need for an EAP in order to ensure the safety of the athletes and spectators. Educational training is provided and stressed to all athletic trainers to develop and impellent these emergency plans. Athletic trainers are instructed by the BOC and NATA to improve and enhance performance by taking continuing education courses yearly. Continuing education courses aim to build on previous knowledge with the goal of improving performance and updating previous education of that professional. However, there is lack of research following up on the original NATA position statement that was written in 2002, almost 17 years ago. Lack of research on EAPs and compliance of universities with their EAPs makes it is hard to improve patient care. Research is needed to demonstrate the seriousness of proper EAP execution and those legal issues that can arise when these recommendations are not followed. Insights from research could help provide insight that would enhance the ability of universities and medical professionals to provide the utmost care to their athletes.

CHAPTER 3

METHODS

Introduction

Research has shown that EAPs are highly recommended among universities at different levels of participation (Almquist, 2008). The purpose of this study is to determine the compliance of collegiate universities in following NATA guidelines for “Emergency Planning in Athletics” established in 2002. Compliance will include the presence of education, rehearsal, communication, emergency team, equipment, transportation, documentation, and venue locations in the EAP.

EAPs are highly emphasized in university athletics, as effectiveness and responsiveness are crucial to survival rate. As the primary leader of the emergency medical team, athletic trainers provide a multitude of services. Athletic trainers cover most athletic events and practice at the university level and therefore they serve as the first responder in almost all athletic related events. Athletic trainers abide by a code of ethics and position statements provided by NATA, which are meant to guide the decisions in a multitude of situations. All athletic departments at each institution should meet the expectations put forth by the “Emergency Planning in Athletics” position statement. This study will aim to investigate the compliance of all sections of an EAP (defined above) as delineated by the NATA position statement on “Emergency Planning in Athletics”. This information will reveal how colleges could benefit by having a risk manager to oversee and ensure best practices according to the NATA position statement on “Emergency Planning in Athletics”.

Setting

This study used an anonymous online survey instrument (Appendix B) Qualtrics to host the survey questionnaire. Participants completed the survey questionnaire, either on a computer at a location of their choice or their cell phones. The multiple responses option on the survey was turned off, allowing only one response per respondent or browser. All surveys were written in English and self administered via an online web portal. The estimated total time for participants to complete the survey was approximately 10-15 minutes.

Subjects

For this study, the population of interest was certified athletic trainers employed by colleges and universities of all divisions. The division of the university of which each athletic trainer participating in the study is noted in the demographic section of the survey and documented for further evaluation. The NATA used their database and will be distributing the survey. Through the NATA, the survey was only sent out to those athletic trainers that were certified and were current members of the NATA. Subjects were be comprised of 1,000 certified members of the NATA, as well as personal connections of the researcher and the research committee's professional networks. Participation voluntary and anonymous. Participants gave consent by clicking on the survey. Participants choose to exit the survey at any time. The group of athletic trainers varied in age, gender, sport of coverage, and years of experience.

Instrument

A survey instrument was used to gather information from the participants on current emergency planning practices. The instrument was developed by the primary investigator, based on the NATA 2002 position statement on “Emergency Planning in Athletics” (Andersen, 2002), and reviewed by members of the research team for content validity and word clarity. The survey consisted of the following sections: (a) demographics, (b) general questions, (c) rehearsal, (d) communication, (e) emergency team and sports medicine staff, (f) equipment and supplies, (g) emergency transportation, (h) documentation, and (i) risk manager. The questionnaire was divided into nine sections and comprised of forty-two questions. Participants were allowed to discontinue the study at any time. The survey took approximately 10-15 minutes to answer all forty-two questions in each of the nine sections.

Data Collection Procedures

The primary investigator (PI) contacted the NATA research committee for electronic dissemination of the survey. The survey was sent out via email in April 9th 2019 and was open till May 21st 2019. A reminder was sent out weekly for 6 weeks following the initial email, to recruit those who have not participated yet. The survey will be distributed via the NATA to 1,000 certified members, as well as to the researcher’s personal connections and the research committee’s professional networks. The invitational email (Appendix A) will include a brief description of the research being conducted and a link to access the survey. By clicking on the link, participants were implying consent to participate in the study. Qualtrics was host the survey questionnaire.

The results of the survey were protected via password-protected computer and password protected Qualtrics account. And all results were anonymous. The researcher was the only one who has access to the results of the survey.

Statistical Analysis

Data from the online survey questionnaire was downloaded and transferred directly into excel. Data was further analyzed by using SPSS version 24. Data analysis was used to determine the percent of colleges and universities that are compliant with the NATA position statement on “Emergency Planning in Athletics”. In order to be considered compliant each participant must have scored an 80% or higher in each category of the survey for a total compliance of 80% or higher on the survey overall. Compliance of all participants was calculated for a “total compliance for all universities”. The grading scale was the percent of “yes” vs. “no” answers in each category. Questions answered with a “yes” were considered compliant for that question.

Conclusion

In conclusion, the purpose of this study was to determine what percent of universities are compliant with the NATA position statement guidelines on “Emergency Planning in Athletics”. Because athletics continue to have sudden acute injury, catastrophic injury, and life threatening situations, it is important for all universities to follow best practices to increase survival rates and lower the potential for legal intervention. Various emergency situations may arise at any sporting event or practice at any time. With an appropriate EAP and proper equipment athletic trainers will be able to

efficiently respond to any emergency. An enhanced level of provided care can occur when athletic trainers and other members of the response team have a clear understanding of their role and expectations of the EAP. To insure best possible outcomes in an emergency situation, development, rehearsal, and revisions of an EAP should adhere to the NATA position statement on “Emergency Planning in Athletics.”

This research was being collected to gauge the rate of non-compliance with the NATA position statement within university athletic departments. Furthermore, this study will help determine what can be done in order to ensure compliance is maintained. The findings of this study will also be used to determine if there is reasonable justification for a risk manager position in collegiate athletic administration. This would open up room for additional employment opportunities. This person would oversee and hold all universities accountable for meeting the standards put forth by the NATA position statement in “Emergency Planning in Athletics”, as well as help maintain best practices and help avoid liability issues.

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COMPLIANCE WITH INSITUTIONAL EMERGENCY ACTION PLANS AS
DELINEATED BY THE NATA POSITION STATEMENT ON EMERGENCY
PLANNING IN ATHLETICS

by

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COMPLIANCE WITH INSTITUTIONAL EMERGENCY ACTION PLANS AS
DELINEATED BY THE NATA POSITION STATEMENT ON EMERGENCY
PLANNING IN ATHLETICS

ABSTRACT

Context: NATA position statements are based in science, drawing from peer-reviewed research on a variety of subjects (NATA, 1950). Although these position statements are in place to provide the proper development, preparation, and implementation of EAPs, there is no governing body regulating the *compliance* of a given institution to the recommendations set forth in the NATA position statement on emergency planning in athletics. Without someone to hold universities accountable to adhere to the recommended standards, universities have no impetus to follow them diligently. Currently, in the field of Athletic Training there is a lack of research about the compliance of EAPs and how closely universities follow the criteria outlined by NATA.

Setting: Data was collected in collegiate institutions only. **Objective:** To determine the compliance of collegiate universities in following NATA guidelines for “Emergency Planning in Athletics” established in 2002. **Patients or other participants:** A total of 151 participants (75 [49.6% male and 76 [50.3%] female), were recruited using the National Athletic Trainer’s Association email database. Any athletic trainer who worked outside of the collegiate setting was excluded from the study. The response rate was (15.1%). **Intervention:** Data was collected using the web-based survey instrument, Qualtrics, consisting of 9 sections: (1) demographics, (2) general questions, (3) rehearsal,

(4) communication, (5) emergency team and sports medicine staff, (6) equipment and supplies, (7) emergency transportation, (8) documentation, and (9) risk manager. **Main Outcome Measure:** Data analysis was run to determine level of compliance amongst the respondents. **Results:** For the sake of this study the benchmark for compliancy was set at 80%. None of the athletic trainers that responded were 100% compliant let alone 80% compliant with the position statement. When NCAA divisions I and II were combined and compared to the remainder of the institutions (NCAA division III, NAIA and NCCAA), there were significantly more institutions in compliance in division I and II at the 43% compliance level. **Conclusion:** Based on the findings universities are not compliant with the NATA position statement on emergency planning in athletics. Development of an EAP, rehearsal of the EAP in addition to the availability of appropriate medical equipment at sporting events will ensure that the safety and treatment conditions of all fans and athletes are of the highest priority. Until these policies and procedures are the standard level of preparedness being enforced, universities will remain non-compliant and at legal liability. **Key words:** Athletic Trainer, Emergency Action Plan (EAP), National Athletic Trainers Association (NATA), and Compliance

Introduction

Emergency situations arise spontaneously from something minor (e.g., a scrape, strained muscle, sprained ankle) to something far more serious, such as cardiac arrest or a spinal injury. Proper emergency management is imperative and should be handled by trained allied health professionals (Andersen, 2002). Allied health professionals include physicians, EMS personnel, and certified athletic trainers. The importance of these allied health professionals working in conjunction with one another cannot be stressed enough when it comes to addressing a medical emergency.

Because emergency situations can arise at any time it is important to develop and implement an effective emergency action plan (EAP) in order to provide the best possible care for victims (Courson, 2007). An EAP is a university specific blue print that provides step-by-step guidelines to personnel that includes, necessary, best practice protocols to provide the most efficient medical care in case an emergency situation arises. An EAP also includes education and training in the use of essential supplies and emergency equipment, as well as instructions regarding implementation (Andersen, 2002).

EAPs are also borne out of legal necessity. Medical personnel, including athletic trainers, have a legal duty to ensure high quality care of all sports participants and spectators as reasonable and prudent professionals (Andersen, 2002). A key legal need for an EAP is the concept of foreseeability. Several legal claims have stated that there was delayed care for an injured athlete and that emergency response teams were careless and neglected to provide appropriate care (Andersen, 2002).

Fortunately, most universities have an EAP due to the current mandate by the National Collegiate Athletic Association (NCAA; NCAA, 2013). However, it is believed

that most universities fail to review, rehearse and revise the EAPs to meet the guidelines put forth by the NATA position statement on emergency planning in athletics.

Research has shown that EAPs are highly recommended among universities at different levels of participation (Almquist, 2008). Effectiveness and responsiveness are crucial to survival rate; therefore EAPs should be highly enforced in university athletics.

Objective

The purpose of this study was to determine the compliance of collegiate universities in following NATA guidelines for “Emergency Planning in Athletics” established in 2002 (Andersen, 2002). Compliance included the presence of education, rehearsal, communication, emergency team, equipment, transportation, documentation, and venue locations in the EAP.

Methods

Setting

This study used an anonymous online survey instrument (Appendix B) to host the survey questionnaire. Participants completed the survey questionnaire, either on a computer at a location of their choice or their cell phones.

Subjects

For this study, the population of interest was certified athletic trainers employed by colleges and universities of all divisions. The NATA database was used to distribute the survey. Participation was voluntary and anonymous. The group of athletic trainers varied in age, gender, sport of coverage, and years of experience. 156 participants responded to the survey and only 151 responses were used for data collection.

Instrument

A survey instrument was used to gather information from the participants on current emergency planning practices. The survey host was Qualtrics. The instrument was developed by the primary investigator, based on the NATA 2002 position statement on “Emergency Planning in Athletics” (Andersen, 2002), and reviewed by members of the research team for content validity and word clarity. The survey consisted of the following sections: (a) demographics, (b) general questions, (c) rehearsal, (d) communication, (e) emergency team and sports medicine staff, (f) equipment and supplies, (g) emergency transportation, (h) documentation, and (i) risk manager. The estimated total time for participants to complete the survey was approximately 10-15 minutes.

Procedures

The survey was sent out via email, and was available for the 6 weeks. The survey was distributed via the NATA to 1,000 certified members, as well as to the researcher’s personal connections and the research committee’s professional networks. The invitational email (Appendix A) included a brief description of the research being conducted and a link to access the survey. The results of the survey were protected via password-protected computer and password-protected Qualtrics account. All the results were anonymous. The researcher was the only one who had access to the results of the survey.

Statistical Analysis

Data was analyzed using SPSS version 24 to determine the percent of colleges and universities that are compliant with the NATA position statement on “Emergency

Planning in Athletics”. In order to be considered compliant each participant must have scored an 80% or higher in each category of the survey for a total compliance of 80% or higher on the survey overall. Compliance of all participants was calculated for a “total compliance for all universities”. The grading scale was the percent of “yes” vs. “no” answers in each category. Questions answered with a “yes” were considered complaint for that question.

Results

The purpose of the current study was to evaluate colleges’ and universities’ adherence to the guidelines outlined in the 2002 NATA position statement on emergency planning in athletics. The specific categories under investigation were the presence of an EAP, rehearsal, communication, emergency team, equipment, transportation, and documentation. Participants answering “yes” to 80% or more to the questions in each category were considered compliant. Additionally, a score of 80% in six out of the seven categories confirmed overall adherence to the guidelines.

A total of 1,000 collegiate athletic trainers were contacted via email and solicited their participation in the current study. Of the 156 surveys received 151 were used for data analysis for a final response rate of 15.1%. Demographics of the respondents are displayed in Table 1.

Table 1
Demographic of population (N=151)

	Frequency (%)
Sex	
Male	75 (49.7)

Female	76 (50.3)
Years of Experience	
1-4	38 (25.2)
5-10	60 (39.7)
11-15	18 (11.9)
16 – 20	14 (9.3)
>20	21 (13.9)
Role	
AD of Sports Medicine	4 (2.6)
Head AT	54 (35.8)
Assoc/Asst AT	80 (53)
GA/Intern	9 (6)
Other	4 (2.6)
Athletic Association	
NCAA D1	55 (36.4)
NCAA D2	47 (31.1)
NCAA D3	27 (17.9)
NAIA	7 (4.6)
NCCAA	6 (4)
<i>Missing</i>	9 (6)

It was hypothesized that 100% of colleges and universities would have an EAP in place. This was the only question that was graded in that section. All (100%) respondents indicate having an EAP in place (Table 2)

Table 2
Compliance in accordance to section

	Compliant N (%)	Non-Compliant N (%)
EAP	151 (100)	0(0)
Rehearsal	22 (14.6)	129 (85.4)
Communication	134 (88.7)	17 (11.3)
Emergency team	7 (4.6)	143 (93.7)
Equipment	3 (2)	140 (92.7)
Transportation	36 (23.8)	113 (74.8)
Documentation	8 (5.3)	140 (92.7)

Secondly, it was hypothesized that less than 80% of the athletic trainers surveyed, who reported their institutions having an EAP, would meet the rehearsal recommendations. Results (Table 2) indicate that only 14.6% of respondents are compliant in the rehearsal section of the survey.

Another hypothesis was that between 80-90% of the athletic trainers surveyed, who reported their institutions having an EAP, would meet the communication recommendations. Majority (88.7%) of the respondents were compliant in ways of communication (Table 2).

In addition, it was hypothesized that less than 80% of the athletic trainers surveyed, who reported their institutions having an EAP, would meet the

recommendations for emergency team preparation. Results (Table 2) indicate that only 4.6% of respondents were compliant in the emergency response team preparation.

Similarly, it was hypothesized that less than 80% of the surveyed athletic trainers who reported their institutions having an EAP would meet the recommendations on equipment readiness. Only 2% of the respondents are compliant in equipment readiness (Table 2)

It was also hypothesized that between 80-90% of the athletic trainers surveyed, who reported their institutions having an EAP, will meet recommendations by the NATA in the category of emergency transportation. Only 23.8% of respondents are compliant in the emergency transportation section (Table 2)

Another hypothesis of the study was that less than 80% of the athletic trainers surveyed, who reported their institutions having an EAP, would meet the recommendations on the documentation of rehearsal and emergency activation. In order to be able to refute negligence documentation needs to be complete. Only 5.3% of respondents are compliant in documenting the rehearsal of their respective EAP and emergency activation (Table 2).

Lastly, it was hypothesized that the overall compliance amongst all survey participants would be 80% within all categories. As hypothesized none of the institutions were 100% compliant with the NATA position statement on emergency planning in athletics. Therefore, in order to be deemed compliant, the respondents were required to score 80% or higher in six out of the seven sections on the survey.

Since no institutions were fully compliant, partial compliance was examined based on the total number of sections in which they were compliant. Table 3 displays the

number of institutions compliant as well as their compliancy score. Over 50% of institutions were only compliant in 2 out of 7 sections giving them a total compliancy score of 28.5%. Less than 10% of institutions were compliant in only 4 (7.9%) and 5(1.3%) out of the 7 sections with compliancy scores of 57.1% and 71.4 %, respectively. Lastly, 10.6% and 19.8% of institutions were compliant in only 1 and 3 out of 7 sections with compliancy scores of 14.3% and 42.8%, respectively.

Table 3
Compliance in accordance to section

	Compliant N (%)	Non-Compliant N (%)
EAP	151 (100)	0(0)
Rehearsal	22 (14.6)	129 (85.4)
Communication	134 (88.7)	17 (11.3)
Emergency team	7 (4.6)	143 (93.7)
Equipment	3 (2)	140 (92.7)
Transportation	36 (23.8)	113 (74.8)
Documentation	8 (5.3)	140 (92.7)

*Based off NATA 2002 Position Statement

**Number of Institutions compliant – N = Number of institutions, (%) is the percent of institutions out of the 151 that responded to the survey.

To determine if there were differences in compliance between collegiate divisions, a crosstabs analysis with a Chi-square was performed at the 42.8% compliancy score (compliant in 3 of 7 sections). There were no statistical differences in the number of

institutions in compliance between any collegiate divisions. However, when NCAA divisions I and II were combined and compared to the remainder of the institutions (NCAA division III, NAIA and NCCAA), there were significantly more institutions in compliance in division I and II (Chi Square = .208, $p = .011$; See table 4 and table 5)

Table 4
Athletic Association and Number of Institutions Compliant With 3 out of 7 sections (42.8% Compliancy Score)

	NCAA D1 & D2	D3, NAIA, NCCAA
Non Compliant		
Count	56	31
Expected Count	62.7	24.3
Compliant		
Count	47	9
Expected count	40.3	15.7

Table 5
Symmetric Measures of Institutions Compliant with 3 out of 7 sections: Significance

	Value
Nominal by Nominal Contingency Coefficient	*. 208
N of compliancy in 3 out of sections.	143
Approximate significance	.011

* $P < 0.011$

Discussion

Due to potential risk of injury to participants at athletic events, it is crucial that a proper amount of planning and preparation goes into handling an emergency situation.

Athletic trainers are educated on the importance of developing and implementing an EAP in order to properly prepare themselves to handle emergency situations. The 2002 NATA issued an official position statement with recommendations regarding emergency planning which served as a theoretical gold standard to design the survey questions used in this study, in order to access both crucial and easily measured aspects of a compliant EAP. The categories of the survey included: EAP, rehearsal, communication, emergency team preparation, equipment readiness, emergency transportation, emergency documentation and overall compliance.

Based on the hypothesis of this study being that none of the respondents would be 100% compliant with the NATA position statement, the benchmark for the sake of this study was lowered to 80%. Previous research found that only 55% of North Carolina high schools reported having a written EAP, where as this research showed 100% of schools at the collegiate setting had one (Monroe, 2009). Although universities reported have an EAP in place, this study found a reported lack of preparation and education past the written document. Areas of concern were found particularly in the sections of emergency response team, equipment and documentation as they had the lowest levels of compliance (4.6%, 2%, 5.3% respectively)

Results of this study showed only 4.6% of the respondents in compliance with the emergency team section. This was notably low considering that the NATA position statement recommends that athletic trainers, team physicians, athletic training students, institutional and organizational safety personnel, institutional and organizational safety administrators and coaches should be involved in the implementation, execution and shared legal responsibility of the EAP (Andersen, 2002; Gould, 2016). Previous research

by Drenzer et al (2009), found that 60% of schools developed their EAP in consultation with their local EMS, and 40% practice and review the plan at least annually with potential responders, however only 34% of schools rehearsed with the coaches. This research agrees with the finding of this study, simply stating that not all members of the emergency response team are involved in all aspects of the EAP like they should be (Drenzer, 2009; Casa, 2012). In addition these results are interesting due to the fact that 3 out of the 5 divisions are under the NCAA, who makes it clear that all members of the emergency team should be certified and familiar with CPR and AED (NCAA, 2013). Enforcing mandates would improve compliance in this section. One suggestions would be that all athletics staff members as well as student athletes and student athletic trainers be certified in CPR, AED and disease transmission and have to provide proof in order to maintain their status within the institution.

The lowest score of compliancy was the equipment section. Determined in this section was whether or not the participant's EAP articulates the specific equipment, location, as well as quantity and quality of that equipment needed in order to carry out a task in an event of an emergency. Only 2% of the respondents were compliant in this section. Similarly, Rothmier et al (2007), found that 46% of high schools don't have one AED and only 6% coordinated with local EMS for emergency planning (Rothmier, 2007). This information is crucial, as governing organizations such as American Heart Association (AHA) and National Athletic Trainers Association recommend AEDs to be available at all competitive sport venues. In addition, number of units and placement of units should be taken in to consideration when trying to accomplish the collapse to shock time frame of under 5 minutes to increase survival rates (Alem, 2003; Courson, 2007;

Weisfeldt, 2011). Immediate and emergency care is one of the 5 educational domains of athletic training as a profession (NATA, 1950). It is imperative that all athletic trainers are equipped to deal with emergency situations when they arise. Therefore, it is inexcusable for an athletic trainer to be unprepared in any reasonable way when it comes to an emergency situation. This lack of adequate equipment could be the difference between life and death of the athlete.

Lastly, the results of this investigation indicate a serious concern regarding documentation. In the documentation section of the survey, athletic trainers answered questions regarding documentation of the activation, evaluation, modification and review of their EAP, which is essential in order to refute negligence (Andersen, 2002). Only 5.3% of respondents were compliant in this section. In order to be proactive about minimizing liability, documentation should delineate precise steps to take in event of an injury, the responsibilities of staff members, treatment provided and whether or not EMS was summoned (Kane, 2008). To assist in any future legal proceedings, if they should occur, it is paramount that all staff involved in an EAP, understands and completes documentation on all emergency response (Andersen, 2002; Drezner, 2007). It is disconcerting that most athletic trainers are willing to put their jobs and institutions at risk by not documenting properly. These results shed light on the possibility that most universities could be facing lawsuits due to the lack of documentation.

The results of this study are alarming due to the fact that every emergency sports medicine team should be equipped in a moments notice to act and respond appropriately. To ensure effective and timely delivery of care, a proper emergency plan should be pre-determined and emergency equipment should be adequately maintained and readily

available. In addition, emergency medicine education should be routinely taught and in case of an emergency the appropriate medical personnel should be contacted promptly (Andersen, 2002). Without a well-educated and certified response team, maintained equipment and detailed documentation, the safety of the athletes as well as the legal liability of the athletic trainer and their institution are at stake. In order to address all of these areas of low compliance found in this study, a proposed solution would be to have the NATA update their position statement and mandate it so that all institutions must follow the best practice recommendations put forth.

Shockingly this study discovered that despite lowering the benchmark to an 80% compliancy level, all 151 respondents who had an EAP in place were still not 100% compliant. The majority (50%) of respondents only had a 29% compliancy score. This is concerning due to the amount of un-foreseeability there is in collegiate athletics and how imperative it is to provide the most comprehensive care.

Another finding from this study was that there were significantly more institutions that were compliant when combining NCAA Divisions I and II compared to the remainder of the institutions (NCAA division III, NAIA and NCCAA). Although this statistic could be due to the increase numbers of institutions in these two categories overall, a possible explanation for this could be that Divisions I and II universities tend to have more requirements to follow or possibly due to a money budget difference for emergency preparedness. Rothmier et al (2007), found that 60% of schools were funded by donations for an AED while only 11% of schools got the funding from their athletic departments (Rothmier, 2007). This could be similar in this case where funding has an impact on emergency preparedness. However, this study was not able to determine

exactly which factors may be affecting the results. Future research could focus on factors that might impact EAP compliance between divisions.

These findings are extremely alarming considering the expectations, goals and roles of the athletic trainer. The reason for lack of compliance could be due to the fact that there is no one policing the implementation, rehearsal, revision and execution of EAPs. This proposes the question on whether or not athletics could benefit from incorporating an EAP compliance officer, either from the legal team or risk management department. This person will solely be in charge of making sure the allied health providers are providing the standard of care recommended by the governing bodies. They would also oversee all aspects of the EAP, including but not limited to; rehearsal, communication, emergency team preparation, equipment readiness, emergency transportation, emergency documentation and overall compliance. Furthermore, the NCAA is the controlling body of 3 of the 5 institutional divisions apart of this study. Unless the NCAA steps up and mandates that all institutions follow the NATA position statement, in addition to creating a protocol that institutions must abide by then institutions will continue to be non compliant and lives will be at stake. Once the NCAA enforces these protocols other governing bodies such as NCCAA and NAIA will ideally follow in suit.

The NATA position statement was created based off best practices in 2002. Although there has not been a new and updated version produced, from these new findings it can be inferred that the document is not being followed or implemented fully. Furthermore, not a lot of research has been reported at the university level revealing compliance of universities with either position statements or EAP preparedness. Future

research can be done to determine specific reasons for non-compliance within universities as well as help determine how universities can be held more accountable to meet the standards or recommendations put forth by best practice acts. In addition, further research should be done to determine if there is a need to put the recommended standards into a best practice policy and require institutional compliance.

In order to continue to be up to date with best practices all athletic training programs need to be looking at this research and improving medical equipment placement and availability. This study further illustrates the need to improve emergency medical response across collegiate athletic training. By not improving this, institutions are endangering student athletes and making themselves more liable in the event of an emergency.

Conclusion

The current study explored the existence of compliance amongst universities with recommendations provided by the NATA position statement on emergency planning in athletics published in 2002. The findings indicated that various colleges and universities are not compliant with the NATA position statement as hypothesized. Compliance with these recommendations should be at 100% amongst all colleges and universities regardless of the division or athletic association. Refusal to comply with NATA best practices could be considered negligence and puts the safety of athletes and fans at risk. The goal of any sports medicine team is to provide the most comprehensive, up-to-date, highest quality individual sports medicine health care available in the most professional, effective and efficient manner.

All components of the EAP including; rehearsal, communication, emergency team preparation, equipment readiness, emergency transportation and emergency documentation need to be implemented immediately in order to avoid preventable injuries and minimize risk of catastrophic events. With proper emergency response plans colleges and universities will be prepared to respond efficiently to various situations in a timely manner.

It's evident that the development of an EAP, adequate training to carry out said policies and procedures defined by the NATA, and the availability of appropriate medical equipment at sporting events should be the most basic requirements. This should ensure that the safety and treatment conditions of all fans and athletes are of the highest priority. Until these policies and procedures are established and the standard level of preparedness is enforced, universities will remain non compliant while continuing to put individuals at risk.

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APPENDIX A

Barry University Cover Letter

Dear Research Participant:

Your participation in a research project is requested. The title of the study is Compliance with Institutional Emergency Action Plans as Delineated by the NATA Position Statement on Emergency Planning in Athletics. The research is being conducted by Kyanna Pastore, a graduate student in the sport and exercise science program at Barry University, and it is seeking information that will be useful in the field of Athletic Training. The aim of the research is to evaluate collegiate settings adherence to the NATA position statement: Emergency Planning in Athletics guidelines established in 2002. In accordance with this aim, the following procedure will be used: A survey created by the primary researcher consisting of both demographic data and EAP specific data. I anticipate the number of participants to be 5,000.

If you decide to participate in this research, you will be asked to do the following: Answer the questions on the in a yes, no format. The questionnaire is estimated to take no more than 10-15 minutes to complete.

Your consent to be a research participant is strictly voluntary and should you decline to participate or should you choose to drop out at any time during the study, there will be no adverse effects. If you are a student there will be no effect on your grades.

There is no more than minimal risk involved with participation in this study. The following procedures will be used to minimize these risks: You can skip any questions you do not want to answer. There are no direct benefits to you for participating in this study; however, your participation will contribute to research in the area of athletic training.

As a research participant, information you provide is anonymous, that is, no names or other identifiers will be collected. Qualtrics allows researchers to suppress the delivery of IP addresses during the downloading of data, and in this study no IP address will be delivered to the researcher. However, Qualtrics does collect IP addresses for its own purposes. If you have concerns about this you should review the privacy policy of Qualtrics before you begin.

By completing and submitting this electronic survey you are acknowledging that you are at least 18-years-old and that you voluntarily agree to participate in the study.

If you have any questions or concerns regarding the study or your participation in the study, you may contact me, Kyanna Pastore by phone at (908) 448-7037 or by email at kpastore@barry.edu. You may also contact the Institutional Review Board point of contact, Jasmine Trana, by phone at (305) 899-3020 or by email at jtrana@barry.edu

Thank you for your participation.

Sincerely,

Kyanna Pastore, LAT, ATC
Graduate Assistant Athletic Trainer
Barry University
kpastore@barry.edu

Sue Shapiro, EdD, LAT, ATC
Associate Professor, Director Athletic Training Program
Barry University
Faculty Sponsor
SShapiro@barry.edu

APPENDIX B**SURVEY**

Demographics

1. Gender
 - a. MALE
 - b. FEMALE
2. Athletic Association
 - a. ATHLETIC DIRECTOR
 - b. HEAD ATHLETIC TRAINER
 - c. ASSISTANT ATHLETIC TRAINER
 - d. GRADUATE ASSISTANT ATHLETIC TRAINER
 - e. OTHER
3. Years of Experience
 - a. 1-4 YEARS
 - b. 5-10 YEARS
 - c. 11-15 YEARS
 - d. 16-20 YERS
 - e. >20 YEARS
4. What best describes your institutions athletic association?
 - a. NCAA I
 - b. NCAA II
 - c. NCAA III
 - d. NAIA

e. NCCAA

5. Are you directly involved in the creation, implementation or execution of the EAP?

a. YES

b. NO

c. I DON'T KNOW

General Questions

1. Do you have an EAP?

a. YES

b. NO

c. I DON'T KNOW

2. How many pages is the EAP?

a. 1-5

b. 6-10

c. 11-20

d. >20

e. I DON'T KNOW

3. Do you have a designated EAP Coordinator (define):

a. YES

b. NO

c. I DON'T KNOW

4. If yes, who is your designated EAP Coordinator:

a. ATHELTIC DIRECTOR

- b. HEAD ATHELTIC TRAINER
 - c. OTHER
 - d. I DON'T KNOW
5. Is the development, implementation and execution of the EAP part of your job description?
- a. YES
 - b. NO
 - c. I DON'T KNOW

Rehearsal

1. Do you and your staff review/update your EAP at least annually?
- a. YES
 - b. NO
 - c. I DON'T KNOW
2. Do you and your staff rehearse your EAP at least annually?
- a. YES
 - b. NO
 - c. I DON'T KNOW
3. Is there documentation in the EAP indicating whether or not the EAP was modified and how?
- a. YES
 - b. NO
 - c. I DON'T KNOW

4. If yes, does your documentation state when the modification was made
(Date/Year)?
 - a. YES
 - b. NO
 - c. I DON'T KNOW
5. Are EMS involved in the review of your EAP?
 - a. YES
 - b. NO
 - c. I DON'T KNOW
6. Are EMS involved when rehearsing your EAP?
 - a. YES
 - b. NO
 - c. I DON'T KNOW

Communication

1. Does your institution have a clear mechanism of communication between health care providers?
 - a. YES
 - i. Check all that apply
 1. CELL PHONES
 2. RADIOS
 3. HAND SIGNALS
 4. OTHER
 5. I DON'T KNOW

- b. NO
- c. I DON'T KNOW

Emergency Team and sport med staff

1. Mark all people who are involved in the implementation, execution and shared legal responsibility of the EAP? Check all that apply
 - a. ATHLETIC TRAINERS
 - b. TEAM PHYSICIANS
 - c. ATHLETIC TRAINING STUDENTS
 - d. INSITUTIONAL AND ORGANIZATIONAL SAFETY PERSONNEL
 - e. INSITUTIONAL AND ORGANIZATIONAL SAFETY ADMINISTRATORS
 - f. COACHES
2. Are all members involved in the implementation and execution of the EAP certified in the use of an AED?
 - a. YES
 - b. NO
 - c. I DON'T KNOW
3. Are all members involved in the implementation and execution of the EAP certified in CPR?
 - a. YES
 - b. NO
 - c. I DON'T KNOW

4. Are all members involved in the implementation and execution of the EAP certified in First AID?
 - a. YES
 - b. NO
 - c. I DON'T KNOW
5. Are all members involved in the implementation and execution of the EAP certified in prevention of Disease transmission?
 - a. YES
 - b. NO
 - c. I DON'T KNOW
6. Does the EAP document identify the personnel involved in carrying out an emergency?
 - a. YES
 - b. NO
 - c. I DON'T KNOW
7. How often is the EAP distributed to the response team?
 - a. WHEN UPDATED
 - b. ANNUALLY
 - c. MONTHLY
 - d. SEMIANNUALLY
 - e. NEVER
 - f. OTHER
 - g. I DON'T KNOW

Equipment and supplies

1. Does your EAP specify the equipment needed to carry out the task in the event of an emergency?
 - a. YES
 - b. NO
 - c. I DON'T KNOW

2. Does your EAP specify where the equipment will be located in the event of an emergency?
 - a. YES
 - b. NO
 - c. I DON'T KNOW

3. Approximately how many AEDs are located at your athletic venues?
 - a. 0
 - b. 1
 - c. 2
 - d. 3
 - e. 4 OR MORE
 - f. I DON'T KNOW

4. Are any venues without an AED?
 - a. YES
 - b. NO
 - c. I DON'T KNOW

5. Do you have a portable AED to bring to sporting venues?

- a. YES
 - b. NO
 - c. I DON'T KNOW
6. How often is your emergency equipment checked/inspected for proper function and readiness?
- a. ANNUALLY
 - b. MONTHLY
 - c. SEMI ANNUALLY
 - d. NEVER
 - e. I DON'T KNOW
7. Prior to each athletic event (game or practice), do you review emergency equipment readiness/availability and your EAP with on site event personnel (non athletic training)?
- a. YES
 - i. If so how often?
 - 1. ALWAYS
 - 2. SOMETIMES
 - 3. RARLEY
 - b. NO
 - c. I DON'T KNOW
8. Prior to each athletic home game, do you review emergency equipment readiness/availability and EAP with visiting team personnel?
- a. YES

- i. If so how often?
 1. ALWAYS
 2. SOMETIMES
 3. NEVER
 4. I DON'T KNOW

b. NO

c. I DON'T KNOW

Emergency Transportation

1. Does your institution have an emergency plan for each activity venue?
 - a. YES
 - b. NO
 - c. I DON'T KNOW
2. Does your EAP include the emergency care facility where the injured athlete will be taken?
 - a. YES
 - b. NO
 - c. I DON'T KNOW
3. Does your EAP include notifying the emergency care facility of an incoming patient?
 - a. YES
 - b. NO
 - c. I DON'T KNOW

Documentation

1. Does your EAP incorporate documentation for implementation of the emergency plan?
 - a. YES
 - b. NO
 - c. I DON'T KNOW
2. Does your EAP have documentation for evaluating the emergency event?
 - a. YES
 - b. NO
 - c. I DON'T KNOW
3. How often is your emergency action plan reviewed annually by the administration of your institution?
 - a. YES
 - b. NO
 - c. I DON'T KNOW
4. How often does you institution the legal council of your institution review your emergency action plan annually?
 - a. YES
 - b. NO
 - c. I DON'T KNOW

Risk Manager

1. Does your program have a designated compliance personnel?
 - a. YES
 - b. NO

c. I DON'T KNOW

2. In your opinion do you have an adequate amount of educational preparation in the areas of emergency preparedness and the development of emergency action plans?

a. STRONGLY DISAGREE

b. DISAGREE

c. NEITHER AGREE NOR DISAGREE

d. AGREE

e. STRONGLY AGREE

3. Do you believe your athletic department could benefit from having compliance EAP officer (EAP manager)? This person would solely be in charge of the EAP, revisions, equipment checks and rehearsals.

a. STRONGLY DISAGREE

b. DISAGREE

c. NEITHER AGREE NOR DISAGREE

d. AGREE

e. STRONGLY AGREE

i. COMMENTS: