Cumberland University

Athletic Department and Athletic Training Education Department Emergency Action Plan Handbook

Based on a model by the NCAA Sports Sciences Division

Created 08/2007
Updated 08/2012

Cumberland University Athletics
Emergency Contact Information

Name	Title	Number
TBA	Head Athletic Trainer	
Danna Johnson	Assistant Athletic Trainer	615-517-4799
James Meadows	Assistant Athletic Trainer	615-218-0632
Katie Arnold	Assistant Athletic Trainer	865-617-3252
LaKeisha Fair	Assistant Athletic Trainer	213-591-3352
Luke Patrick	GA Athletic Trainer	608-843-4424
Amy Swihart	GA Athletic Trainer	402-202-4578
Dr. Damon Petty	Orthopedic Surgeon/Team MD	615-443-7374
Dr. Bernie Sy	General Medical/Team MD	615-444-6203
Dr. Jon Franklin	Optometrist	615-754-4733
Dr. Aaron Pryor	Dentist	615-444-7999
Dr. John Tate	Ear, Nose, Throat MD	615-449-6667
Dr. Alan Roundtree	Gynecologist	615-449-6780
UMC	Main Hospital	615-449-8262
UMC	ER	615-443-2531
UMC	Outpatient Center	615-443-6000
Fire Department		615-444-8777
Police Department	Lebanon	615-443-2323
Poison Control Center		800-222-1222
Security	CU Campus Security	615-476-3061
		Ext. 2222
Joe Gray	Facilities Director	615-547-1255
	CU Counseling Services	615-547-1397

For all life threatening emergencies, dial 911 from a cellular telephone, or 911 from a Cumberland University land line telephone.

Introduction

Emergency situations may arise at anytime during athletic events. Expedient action must be taken in order to provide the best possible care to the sport participant of emergency and/or life-threatening conditions. The development and implementation of an emergency plan will help ensure that the best care will be provided.

As emergencies may occur at anytime and during any activity, the athletic association must be prepared. Athletic organizations have a duty to develop an emergency plan that may be implemented immediately when necessary and to provide appropriate standards of emergency care to sports participants. As athletic injuries may occur at any time and during any activity, it is important to provide proper coverage of events, maintain appropriate emergency equipment and supplies, utilize emergency medical personnel, and attend continuing education in the area of emergency medicine and planning. Hopefully, through careful pre-participation physical screenings, medical coverage, safe practice and training techniques and other safety avenues, some potential emergencies may be averted. However, accidents and injuries are inherent with sports participation, and proper preparation on the part of the sports medicine team should enable each emergency situation to be managed appropriately.

Components of the Emergency Plan

These are the basic components of this plan:

1. Emergency personnel
2. Emergency communication
3. Emergency equipment
4. Roles of first responder
5. Venue directions with map
6. Emergency action plan checklist for non-medical emergency

Emergency Plan Personnel

With athletic association practice and competition, the **first responder** to an emergency situation is typically a member of the sports medicine staff, most commonly a **certified athletic trainer**. A team physician may not always be present at every organized practice or competition. The type and degree of sports medicine coverage for an athletic event may vary widely, based on such factors as the sport or activity, the setting, and the type of training or competition. The first responder in some instances may be a **coach or other institutional personnel**. Certification in cardiopulmonary resuscitation (CPR), first aid, prevention of disease transmission, and emergency plan review is required for all athletics personnel associated with practices, competitions, skills instruction, and strength and conditioning. Copies of training certificates and/or cards are maintained in the athletic department.

The development of an emergency plan cannot be complete without the formation of an emergency team. The emergency team may consist of a number of healthcare providers including physicians, emergency medical technicians, certified athletic trainers, athletic training students; coaches; managers; and, possibly, bystanders. Roles of these individuals within the emergency team may vary depending on various factors such as the number of members of the team, the athletic venue itself, or the preference of the head athletic trainer. There are four basic roles within the emergency team. The first and most important role is establishing **safety of the scene and immediate care of the athlete**. Acute care in an emergency situation should be provided by the most qualified individual on the scene. Individuals with lower credentials should yield to those with more appropriate training. The second role, **EMS activation**, may be necessary in situations where emergency transportation is not already present at the sporting event. This should be done as soon as the situation is deemed an emergency or a life-threatening event. Time is the most critical factor under emergency conditions. Activating the EMS system may be done by anyone on the team. However, the person chosen for this duty should be someone who is calm under pressure and who communicates well over the telephone. This person should also be familiar with the location and address of the sporting event. The third role, **equipment retrieval**, may be done by anyone on the emergency team who is familiar with the types and location of the specific equipment needed. Student athletic trainers, managers, and coaches are good choices for this role. The fourth role of the emergency team is that of **directing EMS to the scene**. One member of the team should be responsible for meeting emergency medical personnel as they arrive at the site of the emergency. Depending on ease of access, this person should have keys to any locked

gates or doors that may slow the arrival of medical personnel. A student athletic trainer, manager, or coach may be appropriate for this role.

Roles within the Emergency Team
1. Establish scene safety and immediate care of the athlete 2. Activation of the Emergency Medical System 3. Emergency equipment retrieval 4. Direction of EMS to scene
Activating the EMS System
Making the Call: • 911 (on campus phone) or 911 using cell phone • Notify campus police at ext. 2222 or 615-476-3061 (cell) • Telephone numbers for local police, fire department, and ambulance service
Providing Information: • Name, address, telephone number of caller • Nature of emergency, whether medical or non-medical • Number of athletes • Condition of athlete(s) • First aid treatment initiated by first responder • Specific directions as needed to locate the emergency scene • Other information as requested by dispatcher
**If non-medical, refer to the specific checklist of the emergency action plan*

When forming the emergency team, it is important to adapt the team to each situation or sport. It may also be advantageous to have more than one individual assigned to each role. This allows the emergency team to function even though certain members may not always be present.

Emergency Communication

Communication is the key to quick emergency response. Athletic trainers and emergency medical personnel must work together to provide the best emergency response capability and should have contact information such as telephone tree established as a part of pre-planning for emergency situations. Communication prior to the event is a good way to establish boundaries and to build rapport between both groups of professionals. If emergency medical transportation is not available on site during a particular sporting event then direct communication with the emergency medical system at the time of injury or illness is necessary.

Access to a working telephone or other telecommunications device, whether fixed or mobile, should be assured. The communications system should be checked prior to each practice or competition to ensure proper working order. A back-up communication plan should be in effect should there be failure of the primary communication system. The most common method of communication is a public telephone. However, a cellular phone is preferred if available. At any athletic venue, whether home or away, it is important to know the location of a workable telephone. Pre-arranged access to the phone should be established if it is not easily accessible.

Emergency Equipment

All necessary emergency equipment should be at the site and quickly accessible. Personnel should be familiar with the function and operation of each type of emergency equipment. Equipment should be in good operating condition, and personnel must be trained in advance to use it properly. The emergency equipment available should be appropriate for the level of training for the emergency medical providers. Creating an equipment inspection log book for continued inspection is strongly recommended. It is recommended that a few members of the emergency team be trained and responsible for the care of the equipment.

It is important to know the proper way to care for and store the equipment as well. Equipment should be stored in a clean and environmentally controlled area. It should be readily available when emergency situations arise.

Medical Emergency Transportation

Emphasis is placed at having an ambulance on site at high risk sporting events. EMS response time is additionally factored in when determining on site ambulance coverage. The athletic training department coordinates on site ambulances for competition in football. Ambulances may be coordinated for other special events/sports, such as a major tournament (i.e. wrestling). Consideration is given to the capabilities of transportation service available (i.e. Basic Life Support or Advanced Life Support) and the equipment and level of trained personnel on board the ambulance. In the event that an ambulance is on site, there should be a designated location with rapid access to the site and a cleared route for entering/exiting the venue. In the event of any emergency, the 9-1-1 system will still be utilized for activating emergency transport.

In the medical emergency evaluation, the primary survey assists the emergency care provider in identifying emergencies requiring critical intervention and in determining transport decisions. In an emergency situation, the athlete should be transported by ambulance, where the necessary staff and equipment is available to deliver appropriate care. Emergency care providers should refrain from transporting unstable athletes in inappropriate vehicles. Care must be taken to ensure that the activity areas are supervised should be emergency care provider leave the site in transporting the athlete. Any emergency situations where there is impairment in level of consciousness (LOC), airway, breathing, or circulation (ABC) or there is neurovascular compromise should be considered a "load and go" situation and emphasis placed on rapid evaluation, treatment and transportation. In order to provide the best possible care for Cumberland University Athletes, transportation to one of the utilized medical facilities is based on the strengths of each facility. For most emergencies, the athlete will be transported to University Medical Center in Lebanon, Tennessee. For those injuries involving severe trauma and advanced medical care through life flight, the athlete may be sent to a Nashville-based trauma facility at the team physician's discretion.

Non-Medical Emergencies

For the following non-medical emergencies; fire, bomb threats, severe weather and violent or criminal behavior, refer to the Cumberland University Emergency Action Plan and follow instructions.

Conclusion

The importance of being properly prepared when athletic emergencies arise cannot be stressed enough. An athlete's survival may hinge on how well trained and prepared athletic healthcare providers are. It is prudent to invest athletic department "ownership" in the emergency plan by involving the athletic administration and sport coaches as well as sports medicine personnel. The emergency plan should be reviewed at least once a year with all athletic personnel, along with CPR and first aid refresher training. Through development and implementation of the emergency plan, Cumberland University Athletics helps ensure that the athlete will have the best care provided when and emergency situation does arise.

Approved by _____ _____

Medical Director Date

Approved by _____ _____

Head Athletic Trainer Date

Emergency Plan: Nokes-Lasater Field (FOOTBALL)

Emergency Personnel: Certified athletic trainer on site for practice and competition; Football Coaching Staff trained in CPR and AED techniques will initiate emergency procedures in the absence of an ATC; additional sports medicine staff accessible from football athletic training facility (adjacent to football field).

Emergency Communication: Fixed telephone line in athletic training facility; certified athletic trainer carries cellular telephone (James Meadows 615-547-1232, 615-218-0632 FB); graduate assistant carries cellular telephone (FB)

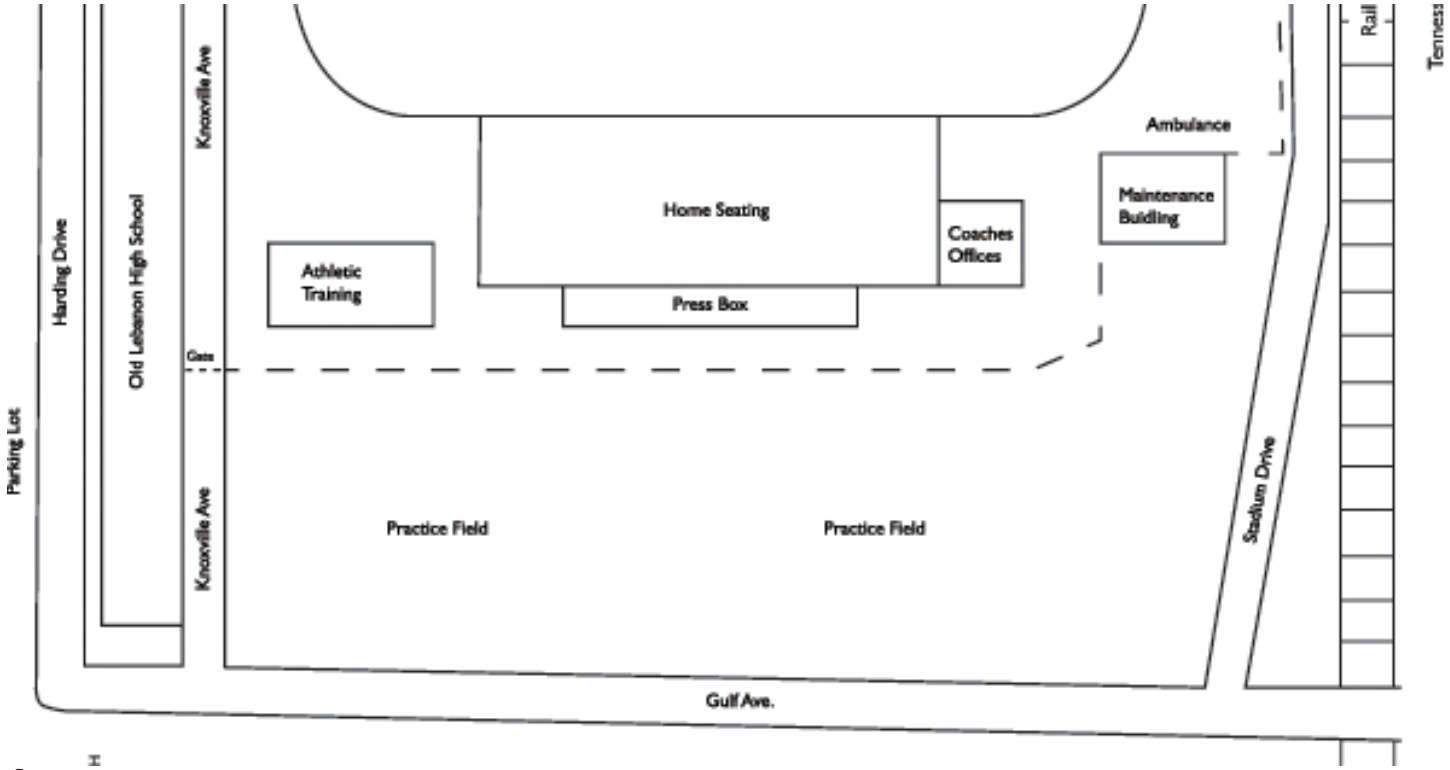
Emergency Equipment: Supplies kept in athletic training bag; additional emergency equipment (splint bag and AED-located in football athletic training facility)

Roles of First Responders

1. Immediate care of the injured or ill student-athlete
2. Activation of emergency medical system (EMS)
    a. 911 call (provide name, address, telephone number; number of individuals injured; condition of injured; first aid treatment; specific directions; other information as requested)
3. Emergency equipment retrieval
4. Direction of EMS to scene
    a. Open appropriate gates
    b. Designate individual to "flag down" EMS and direct to scene
    c. Scene control: limit scene to first aid providers and move bystanders away from area

Venue Directions: Nokes-Lasater Field at 415 Harding Drive, just off Tennessee Blvd. and adjacent to the old Lebanon High School. Practice fields are located just to the west of the football stadium on Gulf Ave. Entrance for ambulance to football field is located on Stadium Drive (the road running just to the south of the stadium and next to the railroad tracks) off Gulf Avenue, through the designated gated entrance.

Venue Map



Emergency Plan: Lindsey Donnell Football Stadium (SOCCER)

Emergency Personnel: Certified athletic trainer on site for practice and competition; Soccer Coaching Staff trained in CPR and AED techniques will initiate emergency procedures in the absence of an ATC; additional sports medicine staff accessible from athletic training facility (adjacent to soccer field).

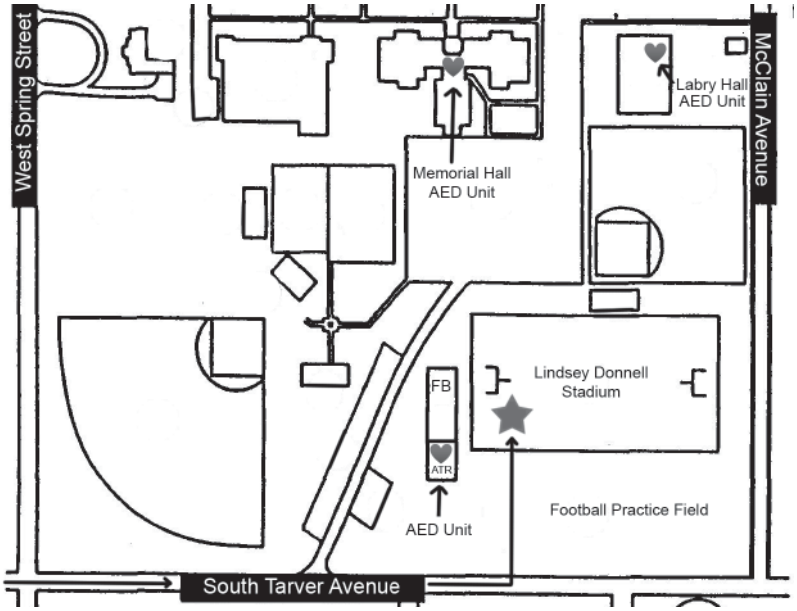
Emergency Communication: fixed telephone line in athletic training facility (547-1334); certified athletic trainer carries cellular telephone (Katie Arnold 865-617-3252 SC); graduate assistant carries cellular telephone (SC) Emergency Equipment: supplies kept in athletic training bag; additional emergency equipment (splint bag and AED-located in main athletic training facility)

Roles of First Responders

1. Immediate care of the injured or ill student-athlete
2. Activation of emergency medical system (EMS)
    a. 911 call (provide name, address, telephone number; number of individuals injured; condition of injured; first aid treatment; specific directions; other information as requested)
3. Emergency equipment retrieval
4. Direction of EMS to scene
    a. Open appropriate gates
    b. Designate individual to “flag down” EMS and direct to scene
    c. Scene control: limit scene to first aid providers and move bystanders away from area

Venue Directions: Lindsey Donnell Stadium is located on South Tarver Street (cross street is West Spring Street). Entrance for ambulance to football field is located on South Tarver Street on the west end of the practice field through the designated gated entrance.

Venue Map



Emergency Plan: Ernest L. Stockton Field-Woody Hunt Stadium (BASEBALL)

Emergency Personnel: Certified athletic trainer on site for in-season practices and competition; Baseball Coaching Staff trained in CPR and AED will initiate emergency procedures; additional sports medicine staff accessible from Main Athletic Training Facility (adjacent to soccer field). Athletic training staff is on-call for off-season practices and competitions.

Emergency Communication: fixed telephone line in baseball clubhouse (547-1366); certified athletic trainer carries cellular telephone (Luke Patrick 608-843-4424); and main athletic training facility (adjacent to soccer field) (547-1334 or 547-1232).

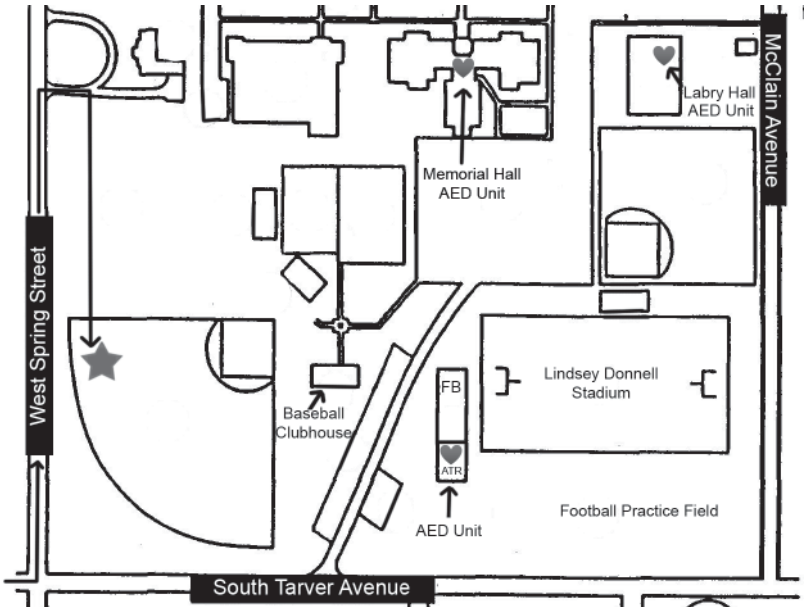
Emergency Equipment: supplies will be located in athletic training kit; emergency equipment (i.e. splint bag, AED), if not on site, is accessible from main Athletic Training Facility adjacent to football field.

Role of First Responders

1. Immediate care of the injured or ill student-athlete
2. Activation of the emergency medical system (EMS)
    a. 8-911 (campus line) 911 (cell) (provide name, address, telephone number; number of individuals injured; condition of injured; first aid treatment; specific directions, other information as requested)
3. Emergency equipment retrieval
4. Direction of EMS to scene
    a. Open appropriate gates
    b. Designate individual to "flag down" EMS and direct to scene
    c. Scene control: limit scene to first aid providers and move bystanders away from area

Venue Directions: Woody Hunt Stadium is located on the corner of S. Tarver Avenue and West Spring Street. The ambulance would enter Cumberland University at the Catron Alumni House from W. Spring St. turn right, come across the grass by the baseball hitting facility and enter the designated gate along right field of the baseball field complex.

Venue Map



Emergency Plan: Tommy Gray Memorial Tennis Courts (TENNIS)

Emergency Personnel: Certified athletic trainer on site for in-season practices and competition; Tennis Coaching Staff trained in CPR and AED techniques will initiate emergency procedures in the absence of an ATC; additional sports medicine staff accessible from Main Athletic Training Facility (adjacent to soccer field). Athletic training staff is on-call for off-season practices and competitions.

Emergency Communication: Fixed telephone line in main athletic training room adjacent to football field (547-1232 or 547-1334); certified athletic trainer carries cellular telephone (Katie Arnold 865-617-3252 TN); additional fixed telephone lines accessible from Dorris and Harry Vise Library (547-1351)

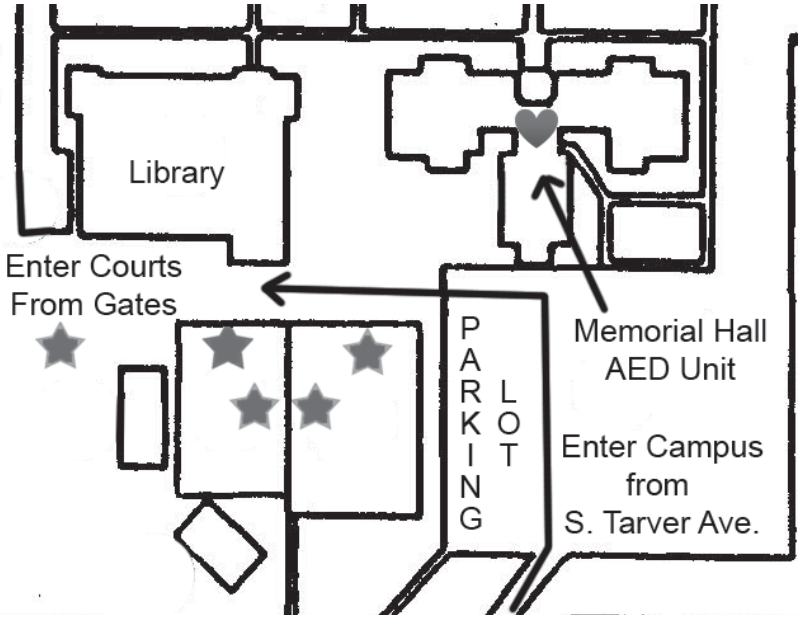
Emergency Equipment: Supplies will be located in first aid kit; emergency equipment (i.e. splint bag, AED), if not on site, is accessible from main Athletic Training Facility adjacent to football field.

Role of First Responders

1. Immediate care of the injured or ill student-athlete
2. Activation of the emergency medical system (EMS)
    a. 8-911 (campus line) 911 (cell) (provide name, address, telephone number; number of individuals injured; condition of injured; first aid treatment; specific directions, other information as requested)
3. Emergency equipment retrieval
4. Direction of EMS to scene
    a. Open appropriate gates
    b. Designate individual to "flag down" EMS and direct to scene
    c. Scene control: limit scene to first aid providers and move bystanders away from area

Venue Directions: Tennis Courts are located between the baseball facilities and Memorial Hall. Enter the campus from South Tarver Street past baseball facilities and veer left toward the tennis courts.

Venue Map



Emergency Plan: CU Softball Field (SOFTBALL)

Emergency Personnel: Certified athletic trainer on site for in-season practices and competition; Softball Coaching Staff trained in CPR and AED techniques will initiate the emergency procedures in the absence of an ATC; additional sports medicine staff accessible from Main Athletic Training Facility (adjacent to soccer field). Athletic training staff is on-call for off-season practices and competitions.

Emergency Communication: Certified athletic trainer carries cellular telephone (LaKeisha Fair 213-591-3352); additional fixed telephone lines accessible from the main Athletic Training Facility (547-1334 or 547-1232)

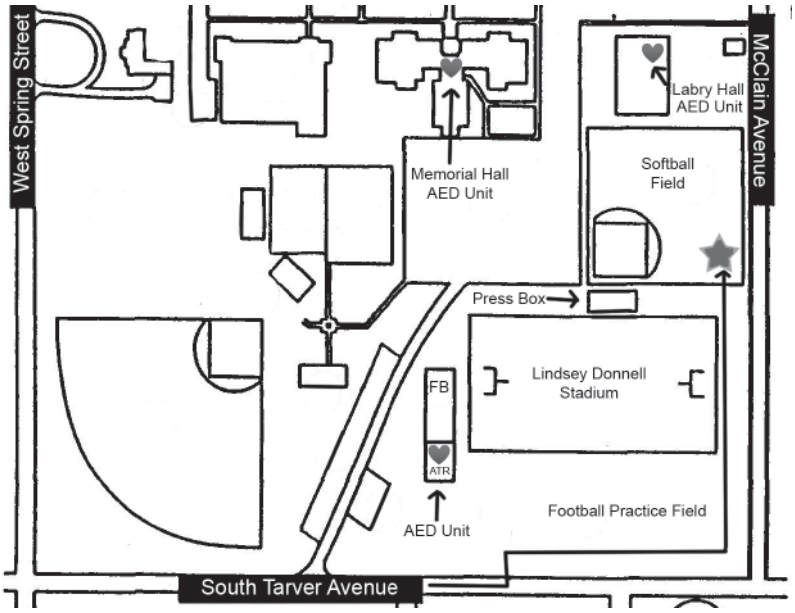
Emergency Equipment: Supplies will be located in athletic training kit (in-season); emergency equipment (i.e. splint bag, AED), if not on site, is accessible from main Athletic Training Facility adjacent to soccer field.

Role of First Responders

1. Immediate care of the injured or ill student-athlete
2. Activation of the emergency medical system (EMS)
    a. 8-911 (campus line) 911 (cell) (provide name, address, telephone number; number of individuals injured; condition of injured; first aid treatment; specific directions, other information as requested)
3. Emergency equipment retrieval
4. Direction of EMS to scene
    a. Open appropriate gates
    b. Designate individual to “flag down” EMS and direct to scene
    c. Scene control: limit scene to first aid providers and move bystanders away from area

Venue Directions: The softball field is located along McClain Avenue, but to enter the softball field, first enter the gate along the football practice field on South Tarver Avenue, veer right and go along the fence line around the football playing field to the designated gate at the softball complex.

Venue Map



Emergency Plan: Dallas Floyd Recreation Center (Basketball, Volleyball, Wrestling)

Emergency Personnel: Certified athletic trainer on site for in-season practices and competition; Basketball, VB and WR Coaching Staffs trained in CPR and AED techniques will initiate emergency procedures in the absence of an ATC; additional sports medicine staff accessible from Main Athletic Training Facility (adjacent to soccer field). Athletic training staff is on-call for off-season practices and competitions.

Emergency Communication: Fixed telephone lines are located in Men's Basketball Coach's office (547-1345) or Women's Basketball Coach's Office (547-1319) or Women's Volleyball Coach's Office (547-1318); certified athletic trainer carries cellular telephone (Danna Johnson 615-517-4799), (Amy Swihart 402-202-4578).

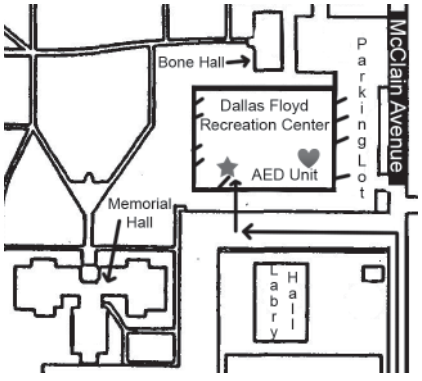
Emergency Equipment: Supplies will be located in athletic training kit (in-season); emergency equipment (i.e. splint bag, AED), if not on site, is accessible from satellite Athletic Training Facility in the lobby of the gymnasium.

Role of First Responders

1. Immediate care of the injured or ill student-athlete
2. Activation of the emergency medical system (EMS)
    a. 8-911 (campus line) 911 (cell) (provide name, address, telephone number; number of individuals injured; condition of injured; first aid treatment; specific directions, other information as requested)
3. Emergency equipment retrieval
4. Direction of EMS to scene
    a. Open appropriate gates
    b. Designate individual to "flag down" EMS and direct to scene
    c. Scene control: limit scene to first aid providers and move bystanders away from area

Venue Directions: Dallas Floyd Gymnasium is located adjacent to McClain Avenue. Turn right onto the campus past the dormitories and the back of the gym is facing McClain Avenue. Entrance to the gymnasium for emergency personnel is located on the west side of the gymnasium through the glass doors.

Venue Map



Emergency Plan: Wrestling Building-Practice Area (Wrestling)

Emergency Personnel: Certified athletic trainer on site for in-season practices and competition; Wrestling Coaching Staff trained in CPR and AED techniques will initiate the emergency procedures in the absence of an ATC; additional sports medicine staff accessible from Main Athletic Training Facility (adjacent to football field). Athletic training staff is on-call for off-season practices and competitions.

Emergency Communication: There are no fixed lines in the wrestling facility. The certified athletic trainer will have a cellular phone to make emergency calls (Katie Arnold 865-617-3252)

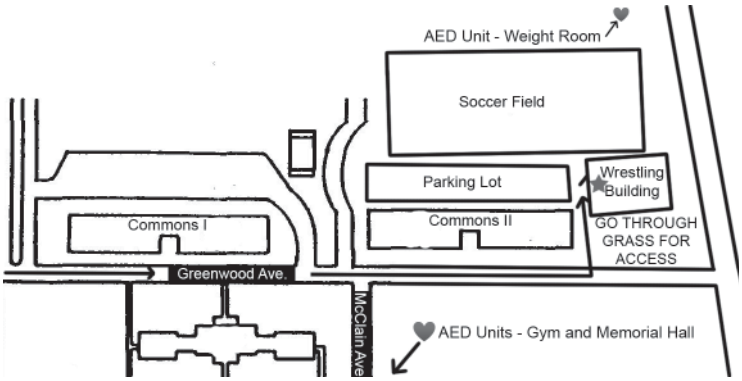
Emergency Equipment: Supplies will be located in athletic training kit; emergency equipment (i.e. splint bag, AED), if not on site, is accessible from satellite Athletic Training Facility in the lobby of the gymnasium.

Role of First Responders

1. Immediate care of the injured or ill student-athlete
2. Activation of the emergency medical system (EMS)
    a. 8-911 (campus line) 911 (cell) (provide name, address, telephone number; number of individuals injured; condition of injured; first aid treatment; specific directions, other information as requested)
3. Emergency equipment retrieval
4. Direction of EMS to scene
    a. Open appropriate gates
    b. Designate individual to “flag down” EMS and direct to scene
    c. Scene control: limit scene to first aid providers and move bystanders away from area

Venue Directions: The wrestling practice facility is located on the corner of Leeville Pike and Greenwood Avenue next to the Commons II living facilities. From West Main Street, turn right onto S. Tarver Avenue, then turn left onto McClain Avenue and then right onto S. Greenwood Avenue and the facility is on the left before Leeville Pike.

Venue Map



Emergency Plan: Strength & Conditioning (Weight Room)

Emergency Personnel: A certified athletic trainer will be on-call for emergency situations related to the weight room. The Strength and Conditioning Coach trained in CPR and AED techniques should begin emergency procedures by contacting 9-1-1, a certified athletic trainer, and/or CU security as determined by the specific emergency.

Emergency Communication: The fixed telephone line to the weight room facility is 453-0559. To contact a certified athletic trainer on campus: Katie Arnold 547-1334; LaKeisha Fair 547-6302; Danna Johnson 547-1306; and/or graduate assistant 257-9507.

Emergency Equipment: Supplies will be located in a designated emergency kit; emergency equipment (i.e. splint bag, AED), if not on site, is accessible from satellite Athletic Training Facility in the lobby of the gymnasium.

Role of First Responders

1. Immediate care of the injured or ill student-athlete
2. Activation of the emergency medical system (EMS)
    a. 8-911 (campus line) 911 (cell) (provide name, address, telephone number; number of individuals injured; condition of injured; first aid treatment; specific directions, other information as requested)
3. Emergency equipment retrieval
4. Direction of EMS to scene
    a. Open appropriate gates
    b. Designate individual to “flag down” EMS and direct to scene
    c. Scene control: limit scene to first aid providers and move bystanders away from area

Venue Directions: The CU Weight Room Facility is located at the Phoenix Plaza on S. Maple Street. Emergency personnel should be instructed to enter the southwest side of the building where the garage door access will be opened by the weight room personnel.

Venue Map

CUMBERLAND UNIVERISTY
LIGHTNING POLICY

As stated in the Cumberland University Athletics Emergency Action Plan:

> **The Head Coach is the individual with primary responsibility for providing a safe environment. Decisions made by the Head Coach will be done in conjunction with the recommendations and input by the Athletic Training staff.**

An unsafe environmental condition should be established when a "flash-to-bang" interval is decreasing and becomes equal to or less than 30 seconds.

In the event of an unsafe environmental condition, the following steps should be taken:

- All persons must immediately leave the athletic site and seek safe shelter.
- A safe shelter should be defined as (1) any sturdy building that has metal plumbing or wiring, or both, to electrically ground the structure, and (2) in the absence of a sturdy building as described above, any vehicle with a hard metal roof with the windows rolled up.
- If there is no safe shelter within a reasonable distance, crouch away from tall objects or in a dry ditch. Crouching with only your feet touching the ground and close together, wrap your arm around your knees and lower your head to minimize your body's surface area. Do not lie flat!
- If you feel your hair stand on end or your skin tingle or hear crackling noises, immediately crouch as described above.
- Allow 30 minutes to pass after the last sound of thunder before resuming athletic activity.
- Do not use the telephone unless there is an emergency. People have been known to be struck by lightning while using a land-line telephone.
- Lighting victims do not carry an electrical charge. CPR is safe for the responder and has been shown to be effective in lightning victims.
- The PA announcer (if applicable) shall also provide appropriate warnings for spectators to seek safe shelter.

CUMBERLAND UNIVERISTY ATHLETIC TRAINING GUIDELINES: EXERTIONAL HEAT ILLNESSES

This statement provides recommendations for Cumberland University athletic trainers and coaches to (1) identify and implement preventive strategies that can reduce heat-related illnesses in sports, (2) characterize factors associated with the early detection of heat illnesses, (3) provide on-site first aid and emergency management of athletes with heat illnesses, (4) determine appropriate return-to-play procedures, (5) understand thermoregulation and physiologic responses to heat, and (6) recognize groups with special concerns related to heat exposure.[1]

Condition Sign or Symptom[1]

1. Exercise-associated muscle (heat) cramps
    a. Dehydration
    b. Thirst
    c. Sweating
    d. Transient muscle cramps
    e. Fatigue
2. Heat syncope
    a. Dehydration
    b. Fatigue
    c. Tunnel vision
    d. Pale or sweaty skin
    e. Decreased pulse rate
    f. Dizziness
    g. Lightheadedness
    h. Fainting
3. Exercise (heat) exhaustion
    a. Normal or elevated body-core temperature
    b. Dehydration
    c. Dizziness
    d. Lightheadedness
    e. Syncope
    f. Headache
    g. Nausea
    h. Anorexia
    i. Diarrhea
    j. Decreased urine output
    k. Persistent muscle cramps
    l. Pallor
    m. Profuse sweating
    n. Chills
    o. Cool, clammy skin
    p. Intestinal cramps
    q. Urge to defecate
    r. Weakness
    s. Hyperventilation
4. Exertional heat stroke
    a. High body-core temperature (>40°C [104°F])
    b. Central Nervous system changes
        i. Dizziness
        ii. Drowsiness
        iii. Irrational behavior
        iv. Confusion
        v. Irritability
        vi. Emotional instability
        vii. Hysteria
        viii. Apathy
        ix. Aggressiveness
        x. Delirium
        xi. Disorientation
        xii. Staggering
        xiii. Seizures
        xiv. Loss of consciousness
        xv. coma
    c. Dehydration
    d. Weakness
    e. Hot and wet or dry skin
    f. Tachycardia (100 to 120 beats per minute)
    g. Hypotension
    h. Hyperventilation
    i. Vomiting
5. Exertional hyponatremia
    a. Body-core temperature <40°C (104°F)
    b. Nausea
    c. Vomiting
    d. Extremity (hands and feet) swelling
    e. Low blood-sodium level
    f. Progressive headache
    g. Confusion
    h. Significant mental compromise
    i. Lethargy
    j. Altered consciousness
    k. Apathy
    l. Pulmonary edema
    m. Cerebral edema
    n. Seizures
    o. Coma

CUMBERLAND UNIVERISTY PREVENTION CHECKLIST OR ATC'S[1]

1. Pre-event preparation
    - ____ Am I challenging unsafe rules (eg, ability receive fluids, modify game and practice times)?
    - ____ Am I encouraging athletes to drink before the onset of thirst and to be well hydrated at the start of activity?
    - ____ Am I familiar with which athletes have a history of heat illness?
    - ____ Am I discouraging alcohol, caffeine, and drug use?
    - ____ Am I encouraging proper conditioning and acclimatization procedures?
2. Checking hydration status
    - ____ Do I know the preexercise weight of the athletes (especially those at high risk) with whom I work, particularly during hot and humid conditions?
    - ____ Are the athletes familiar with how to assess urine color? Is a urine color chart accessible?
    - ____ Do the athletes know their seat rates and, therefore, know how much to drink during exercise?
    - ____ Is a refractometer or urine color chart present to provide additional information regarding hydration status in high-risk athletes when baseline body weights are checked?
3. Environment assessment
    - ____ Am I regularly checking the wet-bulb globe temperature or temperature and humidity during the day?
    - ____ Am I knowledgeable about the risk categories of a heat illness based on the environmental conditions?
    - ____ Are alternate plans made in case risky conditions force rescheduling of events or practices?
4. Coaches' and Athletes' responsibilities
    - ____ Are coaches and athletes educated about the signs and symptoms of heat illnesses?
    - ____ Am I double checking to make sure coaches are allowing ample rest and rehydration breaks?
    - ____ Are modifications being made to reduce risk in the heat (eg, decrease intensity, change practice times, allow more frequent breaks, eliminate double sessions, reduce or change equipment or clothing requirements, etc)?
    - ____ Are rapid weight-loss practices in weight-class sports adamantly disallowed?
5. Event management
    - ____ Have I checked to make sure proper amounts of fluids will be available and accessible?
    - ____ Are carbohydrated-electrolyte drinks available at events and practices (especially during a twice-a-day practices and those that last longer than 50 to 60 minutes or are extremely intense in nature)?
    - ____ Am I aware of the factors that may increase the likelihood of a heat illness?
    - ____ Am I promptly rehydrating athletes to preexercise weight after an exercise session?
    - ____ Are shaded or indoor areas used for practices or breaks when possible to minimize thermal strain?
6. Treatment Considerations
    - ____ Am I familiar with the most common early signs and symptoms of heat illness?
    - ____ Do I have the proper field equipment and skills to assess a heat illness?
    - ____ Is an emergency plan in place in case an immediate evacuation is needed?
    - ____ Is a kiddy pool available in situations of high risk to initiate immediate cold-water immersion of heat-stroke patients?
    - ____ Are ice bags available for immediate cooling when cold-water immersion is not possible?
    - ____ Have shaded, air-conditioned, and cool areas been identified to use when athletes need to cool down, recover, or receive treatment?
    - ____ Are fans available to assist evaporation when cooling?
    - ____ Am I properly equipped to assess high core temperature (ie, rectal thermometer)?
7. Other situation-specific considerations

Wet-Bulb Globe Temperature Risk Chart[1]

WBGT	Flag Color	Level of Risk	Comments
<18°C (<65°F)	Green	Low	Risk low but still exist on the basis of risk factors
18-23°C (65-73°F)	Yellow	Moderate	Risk level increases as event progresses through the day
23-28°C (73-82°F)	Red	High	Everyone should be aware of injury potential; individuals at risk should not complete
>28°C (82°F)	Black	Extreme or Hazardous	Consider rescheduling or delaying the event until safer conditions prevail; if the event must take place, be on high alert

CUMBERLAND UNIVERISTY
HEAT ACCLIMATIZATION RECOMMENDATION

Universal WBGT Index:[2]

		Easy Work		Moderate Work		Hard Work	
Heat Category	**WBGT * F**	**Work/Rest***	**Water/Hour**	**Work/Rest**	**Water/Hour**	**Work/Rest***	**Water/Hour**
1	78-81.9	No Limit	½ qt	No Limit	¾ qt	40/20 min	¾ qt
2	82-84.9	No Limit	½ qt	50/10 min	¾ qt	30/30 min	1 qt
3	85-87.9	No Limit	¾ qt	40/20 min	¾ qt	30/30 min	1 qt
4	88-89.9	No Limit	¾ qt	30/30 min	¾ qt	20/40 min	1 qt
5	>90	50/10 min	1 qt	20/40 min	1 qt	10/50 min	1 qt

** Rest means minimal physical activity (sitting or standing) and should be accomplished in the shade if possible.*

Football (Five-Day) Acclimatization Period:[3]

(Recommendation that has not yet been approved as policy)

- Includes freshmen, transfers, and returners
- One (three-hour) practice per day
    - o One (one-hour) agility/speed practice – One (two-hour) practice per day
- Must provide three hours of continuous rest between practices
    - o Can't include meetings, weights, testing, walkthroughs, etc.
    - o Can include meals and medical treatments
- Walkthroughs don't count towards acclimatization, but they do count towards practice days
- Athletes can't practice separately
- First two days – helmets only
- Third and Fourth day – helmets and shoulder pads
- Fifth day and thereafter – full pads
- Sunday practice is counted as acclimatization day
- Students who arrive late must undergo five-day acclimatization period

Preseason after (Five-Day) Acclimatization Period:[3]

(Recommendation that has not yet been approved as policy)

- Full pads can't be worn consecutive multiple practice days
- No more than three-hour practices on one practice days
- Must provide three hours of continuous rest between practices
    - o Can't include meetings, weights, testing, walkthroughs, etc.
    - o Can include meals and medical treatments
- Walkthroughs aren't considered on field practices (activities) as long as equipment is not used or worn
    - o Counts as a day
    - o Can't exceed two hours on one practice days
    - o Can't exceed one hour on two practice days
- No more than five hours of on field practice during multiple practice days
- Six days prior to first competition must be single practices

CUMBERLAND UNIVERISTY
HEAT ACCLIMATIZATION RECOMMENDATION

NCAA guidelines for preventing heat:[2]

- Obtain athletes' medical histories of previous heat illnesses.
- Allow a period of seven to ten days for acclimatization.
- Instruct athletes to wear appropriate clothing during the acclimatization period.
- Take regular measurements of the WBGT index.
- Encourage athletes to adequately replace fluids.
- Record body weight of athletes before and after practice.
- Identify susceptible athletes.
- Constantly monitor athletes for signs of heat illness

References:

1. Prentice, W.E. (2003). *Arnheim's Principles of Athletic Training A Competency-Based Approach*. New York, NY: McGraw-Hill.
2. NCAA Division I Manual
3. NCAA Division III Guidelines, http://www.ncaa.org/releases/diviii/2003042602d3.htm

Cumberland University Athletic Training (EAP Addendum) Automated External Defibrillator Policies and Procedures

Medical Necessity for Use of an AED

Defibrillation is a recognized means of terminating certain potentially fatal arrythmias during a cardiac arrest. A direct current defibrillator applies a brief, high-energy pulse of electricity to the heart muscle. Automated external defibrillators, or AEDs, were introduced in 1979. AEDs accurately analyze cardiac rhythms and, if appropriate, advise/deliver an electric countershock. AEDs are currently widely used by trained emergency personnel and have become an essential link in the "chain of survival" as defined by the American Heart Association:

- Early access
- Early CPR by first responders or bystanders
- Early defibrillation
- Early advanced life support

It is recognized that successful resuscitation is related to the length of time between the onset of a heart rhythm that does not circulate blood (ventricular fibrillation, pulseless ventricular tachycardia and defibrillation). The AHA states that with every minute it takes to respond, the chance of successful defibrillation decreases 7-10%. The provision of timely emergency attention saves lives. Athletic events (both practice and competition) present a high risk for cardiopulmonary emergencies. Therefore, by training certified athletic trainers and team physicians in the use of AEDs, the emergency response time is shortened.

Explanation of the Use of an AED

Automated external fibrillator, or AED, means a defibrillator which:

- Is capable of cardiac rhythm analysis
- Will charge and deliver a countershock after electrically detecting the presence of cardiac dysrhythmias
- Is capable is only one aspect of the medical care required to resuscitate a patient with a shockable
- Is capable of producing a hard copy of the electrocardiogram

Defibrillation is only one aspect of the medical care required to resuscitate a patient with a shockable ECG rhythm. Dependent on the situation, other supportive measures may include:

- Cardiopulmonary resuscitation (CPR)
- Administration of supplemental oxygen
- Drug therapy

Written Medical Protocol Regarding Use of AED

Use of the AED will follow the American Heart Association AED treatment algorithm. The AED is to be used only on patients in cardiopulmonary arrest. Before the device is utilized to analyze the patient's ECG rhythm, the patient must be:

- Unconscious,
- Pulseless, and
- Not breathing spontaneously

The device is; however, not intended for children less than eight years of age and/or victims weighing less than 90 pounds. The AED units are programmed to administer an initial set of 3 shocks at 200 joules (J), 300 J, and 360 J. If ventricular fibrillation (VF) persists, the Cumberland University athletic training staff will repeat sets of 3 stacked shocks at 360 J with 1 minute of CPR between each set until "no shock indicated" message is received. Cumberland University athletic training staff will shock until VF is no longer present, the patient converts to a perfusing rhythm, or an advanced life support team arrives on scene and assumes control.

To prepare for ECG analysis and defibrillation:

- Verify that the patient is in cardiac arrest (unconscious, no respiration, no pulse)
- Press ON/OFF to turn the AED (the unit will display a green check). The connect electrodes message and voice prompt will occur until the patient is connected to the AED.
- Prepare the patient for electrode placement.
- Follow the screen messages and voice prompts provided by the AED.

Provisions to Coordinate with Local EMS

In the event of a cardiopulmonary emergency, the 911 emergency system should be activate as quickly as possible. The first responders should provide initial care as appropriate to the situation and coordinate with other emergency medical service providers upon their arrival in the provision of CPR, defibrillation, basic life support, and advanced life support.

Operator Considerations

Procedures for Training and Testing in Use of AED

Personnel using the AED must complete a training session each year, to include instruction in:

- The proper use, maintenance, and periodic inspection of the AED
- Defibrillator safety precautions to enable the user to administer a shock without jeopardizing the safety of the patient, the user, or other individuals.
- Assessment of an unconscious person to determine if cardiac arrest has occurred and the appropriateness of applying an AED
- Recognizing that an electrical shock has been delivered to the patient and that the defibrillator is no longer charged
- Rapid, accurate assessment of the patient's post-shock status to determine if further activation of the AED is necessary
- The operation of the local emergency medical system, including methods of access to the emergency response system, and interaction with emergency services personnel.
- The role of the user and coordination with other emergency medical service providers in the provision of CPR, defibrillation, basic life support, and advanced life support.
- The responsibility of the user to continue care until the arrival of medically qualified personnel

Cumberland University Athletic Training (EAP Addendum) Orthopedic Injury Protocol

Initial Evaluation

The primary goals of the initial orthopedic evaluation are to 1) determine whether or not a true orthopedic emergency is present, 2) begin appropriate treatment, and 3) determine the mode of transport for emergencies or routine extremity trauma.

Evaluation of neurovascular status is the first step in the initial evaluation. Distal pulse, motor, sensation, and capillary refill (PMSC) should be assessed with any deficiencies and/or changes noted. Visual inspection for deformity and palpation for deformity and point tenderness should be performed, followed by evaluation for gross joint instability. Clinical tests for suspected long bone fractures such as torque, compression and percussion may be utilized as appropriate by the athletic trainer. Application of splints for fracture or gross joint instability is the final step prior to transport. If splints are applied to an extremity injury, PMSC should be evaluated both before and after placement of splints.

Never allow an obvious orthopedic injury to distract from an underlying injury or illness which may be life-threatening.

Orthopedic Emergencies

The increased incidence of bleeding, neurovascular compromise, and treatment complications resulting from infection classify open fractures and/or dislocations as a true orthopedic emergency. Open fractures and dislocations should have a sterile compressive dressing applied as rapidly as possible. As with any open wound, direct pressure should be used to control major bleeding. If direct pressure does not stanch the flow of blood, arterial pressure points should be used. Tourniquets should not be applied to control bleeding. Treatment should then be identical to that of a closed fracture with immediate transport to the closest appropriate emergency facility by ambulance.

The athletic trainer must also be aware of internal bleeding. Occult hemorrhage into the pelvis or femur fracture can account for significant blood loss.

Large joint dislocations (shoulder, elbow, hip, knee and ankle) constitute an orthopedic emergency. Special attention should be given to knee and elbow dislocations as well as dislocations of the sternoclavicular joint. These most commonly result in neurovascular complications, necessitating emergency management.

Delay in treatment of fractures and dislocations with neurovascular compromise may lead to disasterous consequences including loss of limb and even death. Immediate reduction or realignment by a physician should be performed. If a physician or an emergency facility is not readily available, the athletic trainer may attempt these maneuvers to restore circulation as a part of emergency medical care in a potentially life- or limb-threatening situation. This procedure may be performed by athletic training staff who:

1. are emergency medical technician-intermediates (EMT-I) and have large joint dislocation reduction training;
2. **have verbal orders from the team physician or physician assistant** in regards to joint reduction after consulting regarding patient's current signs and symptoms and medical history. If, however, in the clinical opinion of the ATC/EMT-I, the athlete is in a life-threatening or limb-threatening situation that would benefit from joint reduction and a MD verbal order is not immediately available then the ACT/EMT-I should call 911 and may attempt to reduce the dislocation. If unable to reduce, the athletic trainer should immobilize the joint in the position found, continue monitor PMSC, and immediate transport to the closest appropriate emergency facility by ambulance.

Any emergency situations where there is neurovascular compromise should be considered a ***"load and go"*** situation and emphasis placed on rapid evaluation, treatment and transportation. In order to provide the best possible care of the Cumberland athlete, transportation to one of the utilized medical facilities is based upon the strengths of each facility. All vascular emergencies are to be transported to Baptist Hospital, and all other types of orthopedic injuries are to be transported to University Medical Center.

Splinting Guidelines

General rules to follow during the application of a splint include:

- Splinting is useful in emergency situations, for decreased pain, and to allow for easier transport.
- Deformity, gross instability, or crepitus is an indication for immediate splinting, and prompt referral of an unstable joint to an orthopedic surgeon is necessary.
- Assess neurovascular status (PMSC) prior to and after the application of a splint;
- Cover all wound with sterile compressive dressings prior to the application of a splint;
- Pad the splint to prevent local pressure;
- Immobilization of the joint above and below a fracture or dislocation will decrease movement at the injury site;
- Splinting can be performed in the position of deformity but with experience limb alignment may be helpful
- "When in doubt, splint"

Splinting of Orthopedic Injuries

Splints are used to decrease pain, increase ease of transportation, to prevent closed fractures from becoming open, to minimize damage to nerves, muscles and blood vessels, and to prevent movement at fracture sites or in the presence of gross instability. The basic rule of splinting is to splint in the position of function. With experience or in the presence of a physician, limb realignment before the application of a splint is acceptable. There are three basic types of splint: 1) rigid, 2) vacuum, 3) traction. Rigid splints are useful with non-aligned fractures or in the presence of gross instabilities of joints. Vacuum splints consist of a fabric or vinyl splint containing small Styrofoam beads. The splint is placed on the extremity and secured with straps. A pump is attached and the air is drawn from the splint, compressing the beads together and creating a hard splint conformed to the extremity. Vacuum splints are versatile because of their adaptability to the position of the injured extremity. Traction splints are most frequently used to treat lower extremity femoral fractures. They exert a steady longitudinal pull on the extremity. Traction splints are not suitable for the upper extremity because of potential damage to neurovascular structures in the axilla.

Procedures for Training in Orthopedic Evaluation and Splinting/Immobilization:

Personnel must complete a training session each year with review of signs and symptoms of orthopedic injury, evaluation techniques, and splinting/immobilization applications.

Cumberland University Athletic Training (EAP Addendum) Suspected Spinal Injury Protocol

General Guidelines

• Any athlete suspected of having a spinal injury should not be moved and should be managed as though a spinal injury exists. C-spine in-line stabilization should be maintained.
• The athlete's airway, breathing, circulation, level of consciousness (AVPU/Glasgow Coma Scale) and neurological status should be assessed. If airway is impaired, maintain c-spine in-line stabilization simultaneously with airway using a modified jaw thrust maneuver. If the athletes breathing is adequate, assist ventilations with bag-valve-mask and supplemental oxygen.
• EMS should be activated.
• The athlete should not be moved until immobilized unless absolutely essential to maintain airway, breathing and circulation. If the athlete must be moved, the athlete should be placed in a supine position while maintaining spinal immobilization.
• In a situation where it may not be appropriate for on-site medical personnel to transfer the athlete to a long spine board prior to EMS arrival (lack of enough qualified help or other factors), the rescuer(s) should maintain in-line stabilization, place a rigid cervical collar on (if possible), and continue to monitor baseline vital signs and complete secondary evaluation while awaiting EMS.

Spine Immobilization

• If possible, a correctly sized rigid cervical collar should be placed on athlete prior to moving.
• When moving a suspected spine-injured athlete, the head and trunk should be moved as a unit by securing the athlete to a long spine board. Log-roll maneuver should be used to place the athlete on the long spine board. It is ideal that a minimum three (3) rescuers with preferably five to six (5-6) be in place to perform the log roll procedure.
• The rescuer controlling c-spine stabilization will be in command of log roll maneuver and long spine board immobilization.
• Once positioned onto long spine board, the athlete's torso and legs should be secured, using spider straps or speed clips (if speed clips are used, 5 straps should be applied: 2 crossing chest from shoulder to opposite axilla, one across chest under axilla, 1 across pelvis, and 1 across distal thighs). Athlete's arms should be left free from long spine board straps to facilitate vital sign monitoring and IV access. Athlete's wrists may be secured together in front of the body with vecro strap or tape once secured to long spine board.
• Once torso and legs are secured, the head should be secured last. If necessary, padding should be applied under the athlete's head to fill any voids and maintain neutral in-line position. The head should be secured with lateral restraint pads and then secured to board with tape over forehead and at chin.
• Following securing athlete to board, neurological status should be reassessed.
• The secondary survey should be completed with baseline vital signs (reassessed every 5 minutes), head-to-toe survey, and SAMPLE history.
• Athlete should be transported to the most appropriate emergency medical facility and head team physician and appropriate subspecialist(s) notified.

Additional Guidelines for Care of Spine-Injured Football Athlete

• The facemask should be removed prior to transportation, regardless of current respiratory status.
• Tools for facemask removal (FM Extractor, Anvil Pruners, or racheting PVC pipe cutter) should be readily accessible.
• All loop straps of the facemask should be cut and the facemask removed from the helmet, rather than be retracted.
• The football helmet and chin strap should only be removed if:
    1. The helmet and chin strap do not hold the head securely, such that immobilization of the helmet does not immobilize the head;
    2. the design of the helmet and chin strap is such that, even after removal of the facemask, the airway cannot be controlled nor ventilation provided;
    3. the facemask cannot be removed after a reasonable period of time; or
    4. the helmet prevents immobilization for transportation in an appropriate manner.
• If the helmet must be removed, spinal immobilization must be maintained while removing. In most circumstances, it may be helpful to remove cheek padding and/or deflate air padding prior to helmet removal.
• Shoulder pads do not necessarily have to be removed on site. The front of the shoulder pads can be opened to allow access for CPR and defibrillation.
• Should either the helmet or shoulder pads be removed-or if only one of these is present- appropriate spinal alignment must be maintained.

Procedures for Training in Spine Immobilization:

Personnel should review signs and symptoms of spine injury and complete a training session each year with in-line stabilization, rigid cervical collar application, log roll maneuver, and long spine board packaging. Personnel providing football coverage should review facemask removal with appropriate tools, helmet removal and shoulder pad removal.

Reference: University of Georgia Sports Medicine Handbook Written 11/12/01

Cumberland University Athletic Training (EAP Addendum) Asthma Medication Metered Dose Inhaler (MDI) Policies and Procedures

Asthma Introduction

Although the exact causes of asthma are unknown, several factors, including exercise, may induce as asthma attack. The majority of patients with asthma and patients with allergies will have exercise induced bronchospasm (EIB). EIB usually occurs during or minutes after vigorous activity, reaches its peak 5-10 minutes after stopping the activity, and usually resolves in another 20-30 minutes.

Asthma Medications

Depending on the severity of asthma, medications can be taken on an as-needed basis (prn) or regularly to prevent or decrease breathing difficulty. Most of the mediations fall into two major groups: quick relief medications and long-term control medications.

Quick-relief medications are used to treat asthma symptoms or an asthma episode. The most common quick relief medications are the short-acting beta-agonists that relieve asthmas symptoms by relaxing the smooth muscles around the airways. Common beta-agonists include Proventil and Ventolin (albuterol), Maxair (pirbuterol), and Alupent (metaproterenol). Atrovent (ipatroprium), an anticholinergic, is a quick relief medication that opens the airways by blocking reflexes through nerves that control the smooth muscle around the airways. Steroid pills and syrups, such as Deltasone (prednisone), Medrol (methylprednisolone), and Prelone or Pediapred (prednisolone) are very effective at reducing swelling and mucus production in the airways; however, these medications take 48-72 hours to take effect.

Long-term control medications are used daily to maintain control of asthma and prevent asthma symptoms. Intal (cromolyn sodium) and Tilade (medocromil) are long-term control medications which help prevent swelling in the airways. Inhaled steroids are also long-term control medications. In addition to preventing swelling, they also reduce swelling inside the airways and may decrease mucus production. Common inhaled steroids include Vanceril, Vanceril DS, Beclovent, and Beclovent DS (beclomethasone), Azmacort (triamcinolone), Aerobid (flunisolide), Flovent (fluticasone), and Pulmicort (budensonide). Leukotriene modifiers are new long-term control medications. They may reduce swelling inside the airways and relax smooth muscles around the airways. Common leukotriene modifiers include Accolate (zafirlukast), Zyflo (zileuton) and Singulair (muntelukast). Another long-term control medication, Theophylline, relaxes the smooth muscle around the airways. Common theophyllines in oral form include Theo-Dur, Slo-Bid, Uniphyl and UniDur. Serevent (salmeterol), in inhaler form, is also a long-term control medication. As long-acting betaantagonist, it opens the airways in the lungs by relaxing smooth muscle around the airways.

Inhaled Medications

Inhaled medications are delivered directly to the airways, which is useful for lung disease. Aerosol devices for inhaled medications may include the metered-dose inhaler (MDI), MDI with spacer, breath activated MDI, dry powder inhaler or nebulizer. The most commonly used inhaled medications are delivered by the MDI, with or without the spacer. There are few side-effects the medicine goes right to the lungs and not to other parts of the body.

It is critical that the patient use the prescribed MDI correctly to get the full dosage and benefit from the medication. Unless the inhaler is used in the right manner much of the medicine may end up on the patients tongue, the back of their throat, or in the air. Use of a spacer or holding chamber helps significantly with this problem and their use is strongly recommended. A spacer is a device that attaches to a MDI and holds the medication in its chamber long enough for the patient to inhale it in one or two slow deep breaths. This eliminates the possibility of inadequate medicine delivery from poor patient technique.

Using the MDI

The Cumberland Athletic Training Staff may assist a student-athlete in the use of a prescribed MDI as follows:

- Remove the cap from MDI and hold the inhaler upright
- Shake the inhaler
- Tilt patient head back slightly and have patient breathe out
- Open moth with inhaler 1-2 inches away (or mouth to spacer mouthpiece if spacer available)
- Press down on the inhaler to release the medication as patient starts to breathe in slowly
- Patient breathes in slowly for 3-5 seconds
- Patient holds breath for 10 seconds to allow the medication to reach deeply into the lungs
- Repeat puffs as prescribed; waiting 1 minute between puffs may permit the 2nd puff to go deeper into the lungs

If possible, auscultate breath sounds and measure peak expiratory flow rate (PEFR) prior to and after MDI administration.

Basic Life Support Treatment for Severe Asthma

Patients who have progressed to severe asthma experience a combination of the following: shortness of breath (>30 respirations/min), mental status changes (anxious, confused, combative, drowsy), inability to speak in sentences, sweaty and unable to lie down. If the patient is not responding to or is unable to properly use their MDI, the sports medicine staff should:

- Call for EMS (if not on-site or in-route)
- Maintain a patent airway
- Suction any secretions
- Administer oxygen therapy at 15 liters/minute with non-rebreather device
- Be prepared to assist ventilation with positive pressure ventilation with bag-valve mask
- Administer epinephrine by a prescribed auto-injector (refer to Epi-Pen Policies and Procedures)
- Initiate early emergency transport

Procedures for Training and Testing in Use of MDI

Personnel must complete at training session each year with review of signs and symptoms of asthma and instruction in the proper use of MDI with and without spacer.

Cumberland University Athletic Training (EAP Addendum) Epi-Pen Policies and Procedures

Epinephrine Auto-Injector Introduction

Epinephrine is the drug of choice for the emergency treatment of allergic reactions to insect stings or bites, foods, drugs or other allergens and for basic life support treatment for severe asthma. Epinephrine mimics the responses of the sympathetic nervous system. It quickly constricts blood vessels to improve blood pressure, reduces the leakage from the blood vessels, relaxes smooth muscle in the bronchioles to improved breathing through bronchodilation and alleviate the wheezing and dyspnea, stimulates the heartbeat, and works to reverse the swelling and hives. The drug takes effect within seconds, but the duration of its effectiveness is short (about 10-20 minutes).

Cumberland University Athletic Training Staff utilizes Epi-Pen Auto-Injector, a disposable delivery system for self-administration. The Epi-Pen has a spring activated needle that is designed to deliver a single precise dose (0.3 mg of 1:1000 solution) of epinephrine to adults when activated. The Epi-Pen Jr. has a spring activated needle that is designed to deliver a single precise dose (0.15 mg of 1:1000 solution) of epinephrine to infants/children under 8 years old when activated. It may be necessary in very severe reactions to administer a second dose after five minutes if initial response is inadequate.

Emergency Care for Anayphylaxis and/or Severe Asthma with Epi-Pen

The athletic training staff should:

- Call for EMS (if no on-site or in-route)
- Maintain patent airway
- Suction any secretions
- Administer oxygen therapy at 15 liters/minutes with non-breather device
- Be prepared to assist in ventilation with positive pressure ventilations with bag-valve mask
- Administer epinephrine by a prescribed auto-injector
- Initiate early emergency transport

Indications/Contraindications for Epinephrine Administration

Epinephrine should be administered if the patient exhibits signs and symptoms of a severe allergic reaction (anaphylaxis), including respiratory distress and/or shock (hypoperfusion) or severe asthma. Patients who have progressed to severe asthma experience a combination of the following: shortness of breath (>30 respirations/min), mental status changes (anxious, confused, combative, drowsy), inability to speak in sentences, sweaty and unable to lie down. There are no contraindications for the administration of epinephrine in a life-threatening allergic reaction or severe asthma; however, precautions should be taken with elderly patients or patients with heart disease or hypertension.

Administration of Epinephrine

- Check the Epi-Pen to ensure the medication has not expired, has not become discolored, and does not contain particulates or sediments.
- Prep skin site with alcohol
- Remove the gray safety cap from auto-injector
- Place the tip of the auto-injector against the lateral aspect of the patient's thigh midway between the waist and knee
- Push the injector firmly against the thigh until the spring-loaded needle is deployed and the medication is injected (at least 10 seconds)
- Dispose of the auto-injector in a biohazard container designed for sharp objects. Be careful not to prick yourself since the needle will now be protruding from the end of the injector
- Record that epinephrine was administered, the dose, and the time of administration

Side Effects

The patient may complain of side effects following the administration of epinephrine. Possible side effects include increased heart rate, pale skin (pallor), dizziness, chest pain, headache, nausea, vomiting, excitability and anxiousness.

Reassessment

Following the administration of epinephrine, it is necessary to reassess the patient. Reassessment should include continued evaluation of airway, breathing, and circulatory status. Decreasing mental status, decreasing blood pressure, and increasing difficulty in breathing indicate allergic reaction or severe asthma is worsening. If the condition is worsening, consider the following interventions: injection of second dose of epinephrine if second auto-injector is available, provide emergency care for shock, be prepared to administer positive pressure ventilation with supplemental oxygen if breathing becomes inadequate, and be prepared to initiate CPR and apply AED if patient becomes pulseless.

If the patient's condition improves the following administration of epinephrine, continue to perform ongoing assessments. Be aware patient may complain of side effects from the epinephrine. Conscious patients may also be administered 50 mg diphenhydramine orally or sublingually for antihistamine effects.
Continue oxygen therapy with a nonbreather device and treat for shock if necessary. Any patient requiring epinephrine administration should be transported to the closest available medical facility for follow-up evaluation and treatment as soon as possible. Remember that epinephrine is short-acting (10-20 minutes) and signs and symptoms may return as drug wears off.

Procedures for Training and Testing in Use of Epi-Pen Auto-Injector

Personnel should complete a training session each year with review of signs and symptoms and emergency medical care for allergic reactions, anaphylaxis, anaphylactic shock, and severe asthma. Personnel should complete a training session each year with instruction in the proper use and maintenance of the Epi-Pen and practice with the Epi-Pen Trainer.

National Athletic Trainers' Association

Sickling Collapse: Football and Other Sports

The first known sickling death in college football was in 1974. A defensive back from Florida ran a conditioning test on the first day of practice at altitude in Colorado. He had collapsed on the first day of practice the year before. This time, near the end of the first long sprint, at about 700 meters, he collapsed again – and died the next day. The most recent sickling death, a freshman defensive back at Rice University in the fall of 2006, is similar. He collapsed after running 16 sprints of 100 yards each – and died the next morning. The cause of death for both athletes was acute exertional rhabdomyolysis associated with sickle cell trait.

Up to 13 college football players have died after a sickling collapse. The setting and syndrome in most are similar:

- Sickling players may be on-field only briefly, sprinting only 800-1,600 meters, often early in the season.
- Sickling can also occur during repetitive running of hills or stadium steps, during intense sustained strength training, if the tempo increases late in intense one-hour drills, or at the end of practice when players run "gassers."
- Sickling can even occur rarely in the game, as when a running back is in constant action during a long, frantic drive downfield (7).

Sickling collapse is not limited to football. It has occurred in distance racing and has killed or nearly killed several college or high school basketball players (two were females) in training, typically during "suicide sprints" on the court, laps on a track, or a long training run. The harder and faster athletes go, the earlier and greater the sickling, which likely explains why exertional collapse occurs "sooner" in college football players sprinting than in military recruits running longer distances. Sickling can begin in only 2-3 minutes of sprinting– or in any other all-out exertion – and sickling can quickly increase to grave levels if the stricken athlete struggles on or is urged on by the coach.

Sickling Collapse: Telltale Features

Sickling collapse has been mistaken for cardiac collapse or heat collapse. But unlike sickling collapse, cardiac collapse tends to be "instantaneous," has no "cramping" with it, and the athlete (with ventricular fibrillation) who hits the ground no longer talks. Unlike heat collapse, sickling collapse often occurs within the first half hour onfield, as during initial windsprints. Core temperature is not greatly elevated. Sickling is often confused with heat cramping; but, athletes who have had both syndromes know the difference, as indicated by the following distinctions:

1) Heat cramping often has a prodrome of muscle twinges; whereas, sickling has none;

2) The pain is different – heat-cramping pain is more excruciating;

3) What stops the athlete is different – heat crampers hobble to a halt with "locked-up" muscles, while sickling players slump to the ground with weak muscles;

4) Physical findings are different – heat crampers writhe and yell in pain, with muscles visibly contracted and rock-hard; whereas, sicklers lie fairly still, not yelling in pain, with muscles that look and feel normal;

5) The response is different – sickling players caught early and treated right recover faster than players with major heat cramping (7).

This is not to say that all athletes who sickle present exactly the same way. How they react differs, including

some stoic players who just stop, saying "I can't go on." As the player rests, sickle red cells regain oxygen in the lungs and most then revert to normal shape, and the athlete soon feels good again and ready to continue. This self-limiting feature surely saves lives.

Precautions and Treatment

No sickle-trait athlete is ever disqualified, because simple precautions seem to suffice. For the athlete with sickle cell trait, the following guidelines should be adhered to:

1) Build up slowly in training with paced progressions, allowing longer periods of rest and recovery between repetitions.

2) Encourage participation in preseason strength and conditioning programs to enhance the preparedness of athletes for performance testing which should be sports-specific. Athletes with sickle cell trait should be excluded from participation in performance tests such as mile runs, serial sprints, etc., as several deaths have occurred from participation in this setting.

3) Cessation of activity with onset of symptoms [muscle 'cramping', pain, swelling, weakness, tenderness; inability to "catch breath", fatigue].

4) If sickle-trait athletes can set their own pace, they seem to do fine.

5) All athletes should participate in a year-round, periodized strength and conditioning program that is consistent with individual needs, goals, abilities and sport-specific demands. Athletes with sickle cell trait who perform repetitive high speed sprints and/or interval training that induces high levels of lactic acid should be allowed extended recovery between repetitions since this type of conditioning poses special risk to these athletes.

6) Ambient heat stress, dehydration, asthma, illness, and altitude predispose the athlete with sickle trait to an onset of crisis in physical exertion.

a. Adjust work/rest cycles for environmental heat stress

b. Emphasize hydration

c. Control asthma

d. No workout if an athlete with sickle trait is ill

e. Watch closely the athlete with sickle cell trait who is new to altitude. Modify training and have supplemental oxygen available for competitions

7) Educate to create an environment that encourages athletes with sickle cell trait to report any symptoms immediately; any signs or symptoms such as fatigue, difficulty breathing, leg or low back pain, or leg or low back cramping in an athlete with sickle cell trait should be assumed to be sickling (7).

In the event of a sickling collapse, treat it as a medical emergency by doing the following:

1) Check vital signs.

2) Administer high-flow oxygen, 15 lpm (if available), with a non-rebreather face mask.

3) Cool the athlete, if necessary.

4) If the athlete is obtunded or as vital signs decline, call 911, attach an AED, start an IV, and get the athlete to the hospital fast.

5) Tell the doctors to expect explosive rhabdomyolysis and grave metabolic complications.

6) Proactively prepare by having an Emergency Action Plan and appropriate emergency equipment for all practices and competitions. 4

IMMEDIATE ACTION CAN SAVE LIVES

What We Can Do

Though screening is done at birth; many athletes do not know their sickle-trait status, rendering self-report in a questionnaire unreliable. Many institutions have employed screening strategies to rectify this. A recent survey of NCAA Division I-A schools found that 64% (of respondents) screen (8). The NFL Scouting Combine screens for sickle cell trait. All considered, despite no evidence-based proof yet that screening saves lives, each institution should carefully weigh the decision to screen in the absence of documented newborn screen results.

The Consensus of this Task Force is:

1) There is no contraindication to participation in sport for the athlete with sickle cell trait.

2) Red blood cells can sickle during intense exertion, blocking blood vessels and posing a grave risk for athletes with sickle cell trait.

3) Screening and simple precautions may prevent deaths and help athletes with sickle cell trait thrive in their sport.

4) Efforts to document newborn screening results should be made during the PPE.

5) In the absence of newborn screening results, institutions should carefully weigh the decision to screen based on the potential to provide key clinical information and targeted education that may save lives.

6) Irrespective of screening, institutions should educate staff, coaches, and athletes on the potentially lethal nature of this condition.

7) Education and precautions work best when targeted at those athletes who need it most; therefore, institutions should carefully weigh this factor in deciding whether to screen. All told, the case for screening is strong.

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CUMBERLAND UNIVERSITY
Staph and MRSA in Athletics: Recognition and Prevention

What is "Staph" / MRSA?:

Staphylococcus aureus, often referred to as **"staph"**, is a common type of bacteria that can live harmlessly on the skin or in the nose of 25 to 35 percent of healthy people (this is often referred to as being "colonized" with the germ). Occasionally, staph can cause an infection. Staph bacteria are one of the most common causes of skin infection in the United States, but most of these infections are minor, such as pimples or boils. Most of these infections can be treated without antibiotics, however, some staph infections can cause serious infections, such pneumonia, bloodstream, bone, and joint infections, and surgical wound infections.

In the past, most serious staph bacterial infections were treated with a certain type of antibiotic related to penicillin. In recent years, treatment of these infections has become more difficult because staph bacteria have become resistant to various antibiotics. These resistant bacteria are called **methicillin-resistant staphylococcus aureus (MRSA)**. According to the Centers for Disease Control (CDC) 1% of the population is colonized with MRSA. MRSA is one type of skin infection among several that are of concern in competitive sports.

Who Gets "Staph" / MRSA?:

"Staph" infections, including MRSA, have been traditionally associated with outbreaks in health-care facilities, but they are becoming increasingly common in student-athletes participating in close contact sports (e.g. football, wrestling, lacrosse, etc.), although anyone, including coaches, staff, etc. who come into contact with colonized individuals, can contract the infection. "Staph" and MRSA are spread either by direct physical contact or indirect touching of contaminated objects. This includes touching, using, and/or sharing sheets, towels, clothes, equipment, dressings, personal items, bar soap, etc. which have been used by someone who has "staph" and/or MRSA, along with poor hygiene habits (e.g. hand washing, showering, etc.)

What Does "Staph" / MRSA Look Like?

"Staph" and/or MRSA usually first presents as some type of skin or soft tissue infection such as pimples, abscesses, pustules, and/or boils (see pictures below). Some can be red, swollen, painful, and/or have pus or other drainage. The pustules may be confused with insect bites initially, and may also be associated with existing turf burns and/or abrasions.

What to Do:

Without proper referral and care, more serious infections may cause pneumonia, bloodstream, bone, and/or joint infections, and/or surgical wound infections. If you or anyone you know has what appears to be what looks like "staph" and/or MRSA, please contact a Cumberland University Team Physician and/or University of Cumberland University Athletic Training staff member as soon as possible for evaluation.

Prevention of "Staph" and/or MRSA:

Although treatable, there can be complications associated with "staph" and MRSA infections, making prevention the best measure to combat these infections. The Centers for Disease Control suggest the following measures for preventing staphylococcal skin infections, including MRSA:

1. Practice good hand hygiene by washing hands frequently and in a thorough fashion with soap and warm water or using an alcohol-based hand sanitizer.
2. Take a shower with hot water and wash with soap (liquid antibacterial soap, not bar soap) following all activities (e.g. strength & conditioning sessions, practices, and competitions).
3. Avoid sharing towels, equipment, razors, soap (use liquid soap instead of bar soap), etc.
4. Use a barrier (e.g. clothing or a towel) between your skin and shared equipment.
5. Wipe surfaces of equipment before and after use.
6. Clean and properly cover any open wounds such as turf burns, abrasions, lacerations, etc. with an appropriate bandage at all times.
7. Avoid whirlpools, hydrotherapy pools, cold tubs, swimming pools, and other common tubs if you have an open wound.
8. Maintain clean facilities and equipment.
9. Do not ignore skin infections, pimples, pustules, abscesses, etc. Report these to a Sports Medicine staff member and/or physician immediately.

** Adopted from University of Maryland Sports Medicine*