INSTRUCTION/PROCEDURES MANUAL

FOR STUDENT ATHLETIC TRAINERS

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Project submitted to the faculty of the

Virginia Polytechnic Institute and State University

in partial fulfillment of the requirements for the

degree of

Master of Science in Education

in Physical Education

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April, 1990

Blacksburg, Virginia

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INTRODUCTION

Millions of individuals participate in organized and recreational sports. The participation leads to the possibility of injury. Each athlete participating in sports has a 50% chance of becoming injured (Arnheim, 1989). Although most injuries are not fatal the problem is that many of the injuries could have been prevented or decreased in severity, if qualified supervision were present.

Athletes have come to expect safe and qualified personnel to be present to take care of them. Because of this,"Athletic training is one of the fastest growing fields in the area of sports medicine." (Arnheim, 1989) After World War I the field of athletic training began to become more specialized and the athletic trainer began playing a major role in college athletics.

The National Athletic Trainers Association (NATA) was established in 1950 to enhance professionalism in the field of athletic training (Edwards, 1980). In 1956, the NATA had only 483 members. The organization has expanded to a membership greater than 12,000.

With the growth of athletic training comes the need for more qualified teachers and material with which to teach. Each year more and more college students are expressing an interest in athletic training. The number of instructors to teach these students can not keep up with the growth. Often

the person asked to instruct the students is also in charge of athletic training duties of five to ten sports. Today's athletic trainer must deal with insurance forms, drug tests, rehabilitation, treatment and prevention of injuries, training room maintenance, record keeping and education of athletes and student trainers. Because of time, limited staff, and mass practice schedules, student trainers are often put in situations for which they are not prepared. A trainer may be required to use students who have had only a couple of weeks experience, when a couple of years experience would be much more desirable.

A manual which contains both instructions and procedures could decrease the time demand that is necessary for quality instruction of student trainers and help prevent students from being put in situations for which they are not ready. The manual could decrease some of the wasted teaching time and repetition that is often necessary because of time limits, schedule conflicts and limited teaching time.

PROBLEM

In the past ten years athletic training has become one of the fastest growing fields in the United States. Apprenticeship is one of the best teaching methods for student trainers. However, when a student is at an athletic event or in a

busy training room there is not always paper and pencil around to take notes. This causes the trainer to constantly have to repeat and reteach the skills.

If the students had a guide to refer to and to study, it would serve as a constant reminder of forgotten information and allow them to study procedures on their own in a quiet environment. Continual repetition of instruction would be reduced. The manual could be kept in each student trainers' file in the training room for self-instruction and quick reference of forgotten details. It could easily become irreplaceable as a tool for student trainers' instruction.

WELCOME

This Instruction/Procedures manual is prepared in an attempt to outline some of your duties and responsibilities as a student athletic trainer and to familiarize you with some of the training room and Athletic Department policies which will govern your work. Three training rooms are in operation in Cassell Coliseum throughout the year; one primarily for men's football, one for the remainder of men's sports, and a women's training room on the third floor. Our training staff consists of a Head Athletic Trainer, 2 Assistant Athletic Trainers, 8 to 10 student trainers, 2 graduate assistants and a team physician. With this many staff members and with an extensive athletic program to cover, it is essential that our work be as well coordinated as possible. The key to well coordinated, effective service is uniformity in training room operation. Basically, this means that each student trainer must be thoroughly familiar with routine policies and procedures in order that the training rooms can be operated in a similar manner regardless of who is on duty. If each staff member were to operate the training room in a different manner, discipline problems, confusion and misunderstanding on the part of athletes and coaches would most likely result. With these thoughts in mind, we hope this Instruction/Procedures manual will help

answer some of your questions about your work and familiarize you with some of the general policies.

Use this manual as a study guide. Don't expect to learn the entire manual your first year. It is designed to be used until the time your are certified and may be beneficial after certification. Read it, study it, make notes in it and never be afraid to ask questions.

FORMS

The appendices includes some forms that you will be expected to be familiar with and should know how to complete correctly.

The staff Roster (See Appendix A) is a listing of all the Training staff members and their phone numbers. Remember that the team doctors should only be called in emergency situations.

The Travel check list (See Appendix B) should be used by students when packing for an away trip. This helps to avoid forgetting of important supplies. Be sure to always double check your supplies.

The NATA student application (See Appendix C) should be filled out and mailed in by each student as soon as possible. It is very important for student trainers to become involved in the NATA.

The injury report form (See Appendix D) should be filled out for each injured athlete who is seen in the training room. Be sure that all blanks are filled in as much detail as possible. This form should always be checked by the head trainer before it is filed.

The cumulative injury report form (See Appendix E) should also be filled out on each athlete at the end of his or her playing season. This form allows us to keep a running list

of all the injuries to a particular athlete during his/her career.

A suggested reading list (See Appendix H) is also included. This list contains books that will help in your study of Athletic Training. All books listed are available in the coliseum and are strongly recommended.

A chain of command guide (see Appendix I) is included to give you a idea of when to call which staff member. When an athlete is seriously injured time is very important. Do not waste time trying to contact a staff member if you know an ambulance in needed. Call the ambulance first then try to contact the staff member if possible.

COMPETENCIES

This is a list of some of the treatments you will be called upon to perform while working in the training room. You must have been checked off in each before performing it on an athlete.

TAPING

- Ankle (inversion, eversion)
- Open basket weave
- Arch
- Turf toe
- Shin
- Knee
- Thigh
- Groin
- Elbow
- Wrist
- Finger
- Thumb

MODALITIES

- Ultrasound (Under water)
- Electrical stimulation
- Fitron
- Orthatron
- Cybex
- Pullies

Compression pump

Traction

Hydrocollator

Whirlpool

BRACES/STABILIZERS

Knee Brace

Knee Immobilizer

Ankle brace

Shoulder stabilizer

Crutches

Air casts

OTHER

Practice behavior

Hyperventilation

Primary care

Ankle rehabilitation

TRAINING ROOM RULES

1. Do not wear spikes or cleats in the training room.
2. Do not dress in the training room.
3. Wear shorts at all times in the training room.
4. No treatments will be given during the one hour period before practice without permission of the trainer
5. Arrive in the training room at least 30 minutes before practice time if taping is necessary.
6. Wait your turn in the waiting area, not on the treatment or taping tables.
7. Avoid self-treatment; all tapings, bandages, and other treatments will be applied by the trainer.
8. Do not use training room equipment or supplies without permission of the trainer.
9. Do not remove equipment or supplies from the training room without permission of the trainer.
10. Avoid horseplay, improper language, and all unnecessary confusion.
11. Take a shower before using the whirlpools.
12. After practice take a shower before treatments or seeing team physician.
13. No loitering in the training room.
14. Clean up after yourself.
15. No treatments will be given to visiting athletes without a note from a certified trainer.

TRAINING ROOM DAILY CHECKLIST

1. Fill whirlpools.
2. Make sure taping tables are stocked for taping.
3. Get ice.
4. Check to see that kits are stocked.
5. Keep injury and treatment records.
6. Stock tables after taping period.
7. Check cabinets and supplies.
8. Clean counters and tables with disinfectant
9. Clean up office and desk.
10. Take dirty towels to laundry.
11. Drain and clean whirlpools.
12. Check to make sure everything is in order before leaving.
13. Last person to leave should make sure lights are out and doors are locked.

WEEKLY CHECK LIST

1. Stock and clean refrigerator.
2. Add hydrocollator covers to laundry.
3. Clean coolers and lids.
4. Clean whirlpool with cleaner.
5. Clean sink and mirror.
6. Clean/add water to hydrocollator.
7. Dust
8. Make doughnuts
9. Make skin lube pads.
10. Clean and straighten counter.
11. Check and straighten kits.

DO'S AND DONT'S FOR THE TRAINER

DO:

1. Require physical examination for all players.
2. Provide adequate supervision of athletes.
3. Make all procedures known in writing
4. Obtain the services of a team physician.
5. Equipment/modality checks should be made regularly.
6. Take a course in CPR.
7. Become familiar with the medical history of all athletes.
8. Become familiar with proper equipment and its' fitting.
9. Keep records of all injuries and treatments.
10. Familiarize yourself with all emergency procedures.

DO NOT:

1. Panic
2. Give out any prescription medications.
3. Use modalities for which you are not qualified.
4. Permit players with questionable injuries to participate.
5. Let coaches or athletes influence decisions.
6. Do anything you are not legally qualified to do.
7. Move any injured player until you are sure of injury.
8. Prescribe treatment out of your realm of knowledge.

DRUG TESTING

The Drug Committee at Virginia Tech has decided there will be weekly drug testing of the Varsity athletes. This is a very serious and confidential procedure. All rules and instructions are expected to be followed. Any suspicions or violations should be reported to the staff and nothing that occurs during testing should be publicly discussed.

For further explanation see Appendix G.

PROCEDURES AS OUTLINED BY VIRGINIA TECH DRUG COMMITTEE

GENERAL MEETING

A) CHECK ROLL

B) MEETING ROOM

Give everyone a form as they arrive

No one leaves once they enter

Complete the form

Keep form until time to give sample

C) GIVING SAMPLE

Remain seated until called

Ask if they are ready to give sample. Take only when ready.

Leave only with a student trainer

Mark name off list

D) IF UNABLE TO GIVE SAMPLE

Bottle returned to table

Athlete returns to general room

Athlete keeps form

OBSERVER

A) PICK UP ATHLETE IN MEETING ROOM

Check form for accuracy

Athlete must go directly to rest room and can not leave your sight.

B) RETURNING TO TABLE WITH SAMPLE

Form is completed at table

Bottle is labeled with name and number from form

Do not smear ink on bottle

Athlete ONLY handles bottle

C) OBSERVING GIVING OF SAMPLE

Athlete must be observed at all times

Instruct athlete to tighten lid.

D) GO TO TABLE TO SEAL SAMPLE

Give form to staff member

Athlete dates and initials seal

Athlete seals bottle. Do not cover up number on bottle

Athlete initials and signs proper area

Form are witnessed and completed

Forms and sample are bagged

Athlete initials bag and it is collected

D) RETURN FOR NEXT ATHLETE

If athlete can not give sample:

Bottle is returned to table, lid loose

Athlete is returned to central meeting

Athlete keeps form

** Never hesitate to notify staff of any suspicions!

BOTTLE TABLE

A) COMPLETE TOP OF FORM

Receive form from athlete

Fill in date, time, am/pm, Urine sample

B) MARK BOTTLE

Print request number from form

C) GIVE BOTTLE TO ATHLETE

Do not smear ink

D) GIVE FORM TO OBSERVER

IF UNABLE TO GIVE SAMPLE:

Bottle is returned to you

Athlete keeps form

Keep marked bottles separate

Any suspicious bottle throw out

Lids should be loosely attached

EVALUATION

Proper evaluation is crucial to insure proper treatment. The next few pages include some guidelines and check lists that should be used as a quick reference for evaluation. Failure to properly evaluate an athlete could lead to increased trauma and injury. It is very important that the evaluation be thorough and correct.

MEDICAL EMERGENCIES

The ability to adequately meet any emergency situation is based upon thoughtful preparation prior to any emergency occurring.

CONSIDERATION

First aid

Communications system

Quality emergency care facility near by

Notifications

Transportations

When approaching the injured athlete;

rule out the most serious injury first

find out what happened

locate the injury

begin primary evaluation

decide the best and safest removal procedure

After athlete has been relocated;

completely evaluate

decide whether the athlete can continue activity

administer proper treatment

recommend additional medical care if necessary

HEAD AND NECK INJURY

STABILIZE HEAD

ESTABLISH LEVEL OF CONCIOUSNESS

REMOVE MOUTH PIECE

CHECK FOR BREATHING

NO BREATHING

LOGROLL TO FACE UP

REMOVE FACE MASK

CHIN LIFT/JAW THRUST

MOUTH-TO-MOUTH

CHECK PULSE

NO PULSE

ACTIVATE EMS

REMOVE JERSEY AND PADS

BEGIN CPR

SPLINT-SPINE BOARD

TRANSPORT

PULSE

RESCUE BREATHING

NEUROLOGICAL EVALUATION

TRANSPORT

BREATHING

MAINTAIN AIRWAY

LOGROLL TO FACE UP

REMOVE FACE MASK

NEUROLOGICAL EVALUATION

SPINE-SPLINT BOARD

TRANSPORT

HAND AND WRIST

HISTORY

- previous injury
- unusual sounds
- type of pain
- when pain occurs
- acute or chronic
- mechanism of injury

INSPECTION

- wrist drop
- deformity/swelling
- discoloration
- nail beds
- compare bilaterally

PALPATION

- heat
- swelling
- crepitus
- spasm
- abnormalities
- radius
- radial styloid process
- pisiform

hook of hamate

metacarpals

metacarpalphalangeal joint

phalanges

proximal interphalangeal joint

navicular

lunate

ulna

ulna styloid process

carpal tunnel

thenar eminence

hypothenar eminence

radial artery

pain and point tenderness

EVALUATION (PROM, AROM, RROM)

wrist flexion

wrist extension

ulnar deviation

radial deviation

finger flexion

finger extension

finger abduction

finger adduction

thumb flexion

thumb extension

thumb abduction

thumb adduction

opposition

SPECIAL TESTING

Finkelstein Test

Tinel Sign

Phalen's Test

Bunnel-Littler Test

Allen Test

Sensation Testing

Flexor Digitorum Superficialis

Flexor Digitorum Profundus Test

Retinacular Test

KNEE

HISTORY

previous injury

unusual sounds, sensations and type of pain

when pain occurs

acute or chronic

mechanism of injury

INSPECTION

bilateral comparison

swelling

deformity

discoloration

inspect thigh muscles

genu varus, genu valgus, and recurvatum

Q-angle

gait

path of patella

PALPATION

pain and point tenderness

spasm, swelling and crepitus

tibial tubercle

femoral condyles

head of fibula

patella and borders

joint line, medial and lateral

quadriceps tendon

pes anserine insertion

MCL

LCL

iliotibal tract

FUNCTIONAL TESTING

AROM on flexion and extension

PROM on flexion and extension

RROM on flexion and extension

valgus stress test in 30 degrees flexion

valgus stress test in full extension

varus stress test in 30 degrees flexion

varus stress test in full extension

perform anterior drawer test

perform posterior drawer test

McMurray test

Apley's compression test

Apley's distraction test

bounce home test

patellar grinding test

apprehension test

Lachman's test

ANKLE

HISTORY

- previous injury
- unusual sounds or sensations
- when pain occurs
- determine mechanism of injury

INSPECTION

- bilateral comparison
- swelling
- deformity
- discoloration
- shoe wear pattern
- walking

PALPATION

- pain and point tenderness
- swelling, crepitus, spasm
- malleoli
- calcanius
- fibula, tibia
- palpate ligaments medial and lateral
- tibial artery
- Achilles tendon

FUNCTIONAL TESTING (AROM, PROM, RROM)

- dorsiflexion

plantarflexion

clockwise circumduction

counterclockwise circumduction

SPECIAL TESTS

anterior drawer test

posterior drawer test

heel tap

squeeze tibia and fibula

ELBOW

HISTORY

- unusual sensations
- unusual sounds
- type of pain
- when pain occurs
- acute or chronic
- previous injury
- mechanism of injury

INSPECTION

- compare bilaterally
- swelling
- deformity
- discoloration
- carrying angle
- scars

PALPATION

- medial epicondyle
- medial supracondylar ridge
- olecranon
- ulnar border
- olecranon fossa
- lateral epicondyle
- lateral supracondylar ridge

radial head

ulnar nerve

wrist flexor/pronator group

medial collateral ligament

supracondylar lymph nodes

Olecranon bursa

triceps

wrist extensors

lateral collateral ligament

annular ligament

cubital fossa

heat

swelling, crepitus

spasm

abnormalities

pain and point tenderness

EVALUATION (PROM, AROM, RROM)

flexion

extension

pronation

supination

SPECIAL TESTS

biceps reflex

triceps reflex

Brachioradialis reflex

sensation testing

valgus stress test

varus stress test

Tinel sign

tennis elbow stress test

Annular ligament test

SHOULDER

HISTORY

- primary complaint
- previous injury
- location of pain
- type of pain
- mechanism of injury
- unusual sensations
- unusual sounds
- onset of symptoms
- activity at time of injury

INSPECTION

- carrying angle of the arm
- deformity
- swelling
- discoloration
- compare bilaterally
- sternoclavicular joint
- clavicle
- acromiclavicular joint
- glenohumeral joint
- scapulothoracic region
- smoothness of movement

PALPATION

tenderness, swelling, deformity, crepitus

palpate bilaterally

stenoclavicular joint

clavicle

acromioclavicular joint

coracoid process

greater tuberosity

bicipital groove

spine of scapula

vertebral border of scapula

pulses

neurologic pathways

axilla

muscles

EVALUATION

Active range of motion tests

flexion

extension

abduction

adduction

horizontal flexion

horizontal extension

internal rotation

external rotation

scapular elevation

scapular depression

resistive range of motion tests

passive range of motion tests

SPECIAL TESTS

Yergason's test

Drop arm test

Centinela test

Apprehension test

Impingement Syndrome test

Compression test

Distraction test

Apley

Scratch test

NEUROLOGICAL TESTS

sensory and motor state

referral areas - elbow, chest, neck

HIP AND PELVIS

HISTORY

- previous history
- unusual sensations
- unusual sounds
- type of pain
- when pain occurs
- acute or chronic
- mechanism of injury

INSPECTION

- bilateral comparison
- swelling
- deformity
- discoloration
- facial expression
- gait
- posture

PALPATION

- pain and point tenderness
- local heat
- spasm, swelling, crepitus
- abnormalities
- anterior superior iliac spine
- iliac crest

greater trochanter

posterior superior iliac spine

ischial tuberosity

L4 and L5 spinous processes

inguinal ligament

sciatic nerve

rectus femoris

hamstrings

EVALUATION

flexion

extension

adduction, adduction

internal rotation

external rotation

SPECIAL TESTS

Trendelenburg test

leg strength

Ober's test

Thomas test

LUMBAR SPINE

HISTORY

- previous injury
- unusual sensations
- unusual sounds
- type of pain
- when pain occurs
- acute or chronic
- mechanism of injury

PALPATION

- pain and point tenderness
- local heat
- spasm, swelling, crepitus
- abnormalities
- iliac crest
- L4 - L5 vertebrae
- coccyx
- spinous process
- posterior superior iliac spine
- greater trochanter
- ischial tuberosity
- paraspinal muscles
- sciatic nerve
- anterior abdominal muscles

other muscles

FUNCTIONAL TESTING

Active and Resistive

flexion

extension

lateral bending rotation

rotation

NEUROLOGICAL

T12, L1, L2, L3

muscle testing - Iliopsoas

sensation - Anterior thigh

L2, L3, L4

Muscle Testing - Quadriceps or Hip adductors

Sensation - None

L4

Muscle testing - Anterior Tibialis

Sensation - Medial ankle

Reflex - Patellar

L5

Muscle Testing - Extensor Hallicus Longus

Sensation - dorsum of foot

Reflex - none

S1

Muscle Testing - Peroneus longus and brevis

Sensation - lateral ankle

Reflex - Achilles

SPECIAL TESTING

Babinski

Straight leg raise

Hoover Test

Kernig test

Valsalva Maneuver

Pelvic rock test

Gaenslins's sign

Patrick test

Beevor's test

CERVICAL SPINE

HISTORY

- previous history
- unusual sensations
- unusual sounds
- location of pain/paralysis
- type of pain
- when pain occurs
- acute or chronic
- mechanism of injury

INSPECTION

- swelling
- deformity
- discoloration
- scars
- facial expression
- posture
- smoothness of movement
- spinal alignment
- level of shoulders

PALPATION

- Hyoid bone
- Thyroid cartilage
- First Cricoid Ring

Carotid pulse

Occiput

Inion

Superior Nuchal Line

Mastoid Processes

Spinous Processes of Cervical Vertebrae

Facet joints

Sternocleidomastoid muscle

Lymph node chain

Supraclavicular fossa

Upper Trapezium

Superior Nuchal ligament

Range of Motion

Active, Passsive and Resistive Range of Motion

Flexion

Extension

Rotation

Lateral Bending

NEUROLOGIC LEVEL EXAMINATION

C5

Deltoid strength/Bicep strength

bicep reflex

sensation - lateral upper arm

C6

Bicep strength/Wrist extensor strength

brachioradialis reflex

sensation - thumb

C7

Tricep strength/Wrist flexor strength

tricep reflex

sensation - Middle finger

C8

Finger flexion, abduction, adduction

no reflex

sensation - little finger

T1

Finger abduction, adduction

no reflex

sensation - Medial elbow

SPECIAL TESTS

Distraction

Compression

Valsalva Test

Adson Test

Swallowing Test

ABDOMINAL INJURIES

HISTORY

- blood in urine
- localization of pain
- radiation and referral of pain
- quality of pain
- duration of pain
- intensity of pain
- onset of pain
- mechanism of injury
- history of vomiting
- diarrhea
- blood in stool

INSPECTION

- swelling/deformity
- rigidity in quadrants
- discoloration
- signs and symptoms of shock
- scars

PALPATION

- quadrants (4)
- swelling
- fever
- rigidity

point tenderness

appendix

EVALUATION

check temperature

check blood pressure

check pulse

check respiration

perform rebound test

active trunk flexion

superficial abdominal reflex

Physician referral

MODALITIES/REHABILITATION

MODALITY GUIDELINES

ULTRASOUND

PHYSIOLOGICAL EFFECTS

Deep heating, promotes circulation and healing

INDICATIONS

post acute injury

TECHNIQUES

Use an intensity of .5 to 1.5 depending on the density of the tissue being treated.

TIME INTERVALS

5 minute treatment time

PRECAUTIONS

Move head slowly in a circular motion. Never use on epiphyseal plates, ischemic areas, metal implants, or after recent surgery.

HYDROCOLLATOR

PHYSIOLOGICAL EFFECTS

Circulation is increased, tissue temperature rises, Relaxes muscles, helps relieve muscle spasms.

INDICATIONS

Post acute conditions of sprains or strains

TECHNIQUES

Wrap in hydrocollator cover or in about 6 layers of towels.

TIME

10 to 20 minutes per application

PRECAUTIONS

Never apply where there is a loss of sensations, immediately after an injury, when there is decreased arterial circulation, or directly over eyes or genital areas.

Do not overheat sensitive skin.

WHIRLPOOL

PHYSIOLOGICAL EFFECTS

Circulation is increased followed by a reduction in congestion, spasm, and pain. Relaxes muscles and helps relieve muscle spasms.

INDICATIONS

Vary with temperature.

PRECAUTIONS

Never turn on or off while an athlete is immersed.

TIME

10 to 20 minutes

ICE PACK

PHYSIOLOGICAL EFFECTS

Reduces circulation, reduces pressure on nerve endings resulting in less pain.

INDICATIONS

Acute conditions to control bleeding and reduce pain.

TECHNIQUES

Cover area with a cold, wet elastic wrap. Secure ice

pack with elastic wrap then elevate.

TIME

20 to 45 minutes with compression and elevation. Continue cold treatment for 24 to 72 hours. Apply cold pack after activity to post acute injuries.

PRECAUTIONS

Be sure there is something between ice and body part to avoid frostbite.

ICE MASSAGE

PHYSIOLOGICAL EFFECTS

Reduces circulation

INDICATION

Post acute injury, Ice massage alone or in conjunction with heat modalities such as hydrocollator.

TECHNIQUES

Freeze cup full of water

TIME

10 to 15 minutes

PRECAUTIONS

Keep ice moving so creates a massaging effect.

CONTRAST BATH

PHYSIOLOGICAL EFFECTS

Flushing effect, cold constricts vessels then hot dilates vessels. Creates relaxing feeling

INDICATION

Post acute injury

TECHNIQUES

Warm whirlpool 106 degrees, Cold whirlpool 40 to 50 degrees.

TIME

Alternate cold and heat treatments, beginning and ending with cold. (3 minutes cold 2 minutes hot)

PRECAUTIONS

Watch for swelling in hot water.

ELECTRICAL STIMULATION

PHYSIOLOGICAL EFFECTS

Stimulation of muscle fibers, increased circulation and muscle contraction.

INDICATIONS

Reeducation, fatigue, spasms and muscle contraction.

TECHNIQUES

Moisten pads and place above and below area of pain Make sure pads are secure.

TIME

10 to 20 minutes

PRECAUTIONS

Do not use on open wounds, incisions or when pace maker is present.

INTERMITTENT COMPRESSION PUMP

PURPOSES AND EFFECTS

External pressure, when applied to an edematous extremity, will help to return excess interstitial fluid to the lymphatic or venous circulation.

INDICATION

Traumatic edema

PRECAUTIONS

1. Acute inflammation or trauma
2. Infections
3. Presence of thrombi
4. Edema secondary to cardiac or kidney dysfunction
5. Obstructed lymphatic channels

TECHNIQUES

1. Check the patient's skin integrity, pressure sensation, and measure the girth of the part to be treated. Determine the patient's blood pressure.
2. Position the patient comfortably with the part to be treated in about 30 degrees elevation.
3. Apply the appliance and attach the rubber tubing.
4. Increase the pressure to the patient's tolerance. DO NOT EXCEED THE DIASTOLIC BLOOD PRESSURE. The patient should feel no pain, tingling, numbness or pulse during the treatment. Generally keep pressures at less than 50mm for the upper extremity and 60mm for the lower extremity.

5. During the exhaust cycle, the patient should be encouraged to exercise his fingers or toes.
6. The minimum treatment should be two hours out of every 24 hours.
7. Remove the appliance hourly to check the skin and allow some exercise.
8. To retain the reduction wrap the part with an elastic bandages.

FREQUENCY

The pump should be used daily or twice daily until maximum reduction of edema is achieved, in approximately 3 to 4 weeks. Girth measurements, before and after treatment, should be performed until no further change is detected.

FLEXIBILITY RECOMMENDATION

1. Conduct light jogging or calisthenics before stretching.
2. Stretching does not complete a warm-up. Transition to light activities before full speed drills.
3. Avoid use of ballistics in stretching.
4. Static stretching should be held in each position 20 to 30 seconds.
5. Never stretch to the point of pain.
6. PNF stretching may be used as a pre-practice tool, while passive or static stretching may be used for post practice.
7. Partner stretching requires communication.
8. Encourage a non-emotional atmosphere for stretch drill.

ARCH - SHIN SPLINTS (Giek, McCue, 1987)

1. Point toes downward as far as possible then point toes upward as far as possible. Do while keeping foot as flat as possible on the floor, toes projecting over an "edge".
2. Spread toes as wide apart as possible using your hands to assist if necessary.
3. While sitting, weight on outside of feet, soles facing; make a "fist" with your toes.
4. While sitting, right foot resting on heel; make a slow inward or clockwise circle; inward or counter clockwise circle for the left foot.
5. Wile sitting, place your feet on a towel in front of you. curl your toes and slowly draw the towel toward you. Use a weight on the towel for resistance.
6. Pick up marbles and pencils from the floor.
7. Standing, raise as high as possible on your toes and back down.
8. Turn ankle in against resistance (manual, bike tubing)

To massage and relieve a tired and sometimes painful arch roll your arch back and forth over a pop bottle, baseball bat, or golf ball.

KNEE REHABILITATION

These exercises are specifically designed to rehabilitate the muscles of the lower extremity in cases where knee problems have resulted in weakness. All of the exercises can be performed easily and simply when done correctly. These exercises are used as the first step to rehabilitate both competitive athletes as well as non-athletes. There are some general "do's" and "dont's" which are a matter of common sense.

The important thing is that any muscle weakness demonstrated by the athlete requires months of intensive daily exercise for rehabilitation. Muscle weakness and atrophy can occur in just a few weeks, but it may take months to regain strength. There must be a time set apart each day to perform the exercises. Occasional performance of exercises will not be of benefit.

An exercise program should not cause pain or swelling in the knee. This usually occurs when too much activity has been done too soon. If this continually occurs, it means a repeat examination is necessary. An exercise program must be built gradually, start slow and watch for signs of over activity.

<u>QUADRICEP SET</u>

Sit on a flat surface with legs out straight. Tighten the knee without moving the leg out of position. Relax and repeat slowly, ease into the contraction for 2 seconds, hold

for 6 seconds, and ease out of the contraction for 2 seconds. Repeat 3 sets of 10 reps.

HIP EXERCISES

STRAIGHT LEG RAISES

Lie on your back with your injured leg straight and your uninjured knee flexed about 30 degrees. Raise the injured leg and slowly lower the leg to the table, keeping the knee straight. Do 3 sets of 10 reps. Gradually begin adding ankle weights about one-half pound at a time.

HIP EXTENSION

Lie on the stomach, raise straight leg off of the table then lower. Repeat for 3 sets of 10 reps and add ankle weights as they progress.

HIP ADDUCTION

Lie on back, raise injured leg twelve inches and across the uninjured leg.

HIP ABDUCTION

Lie on back, raise injured leg six inches and move it away from uninjured leg.

TOE RAISES

Standing with both heels off the edge of a step or board, slowly raise up, bringing your heels off the ground, onto your toes. Hold this position for three seconds, then slowly return to starting position.

RANGE OF MOTION EXERCISES

KNEE FLEXION

Lying on your back, raise the leg straight upward supporting the lower thigh just above the knee with the hands clasped in back of the knee. Relax the quadriceps and let the weight of the leg bend the knee; then, with no additional aid straighten the knee to its previous position.

Sit on a high table with legs dangling. Place uninjured leg in front of the injured leg. With light pressure, give pressure to injured leg trying to flex the knee.

LEG EXTENSION

Lying on table, place a four inch lift under the heel. With light pressure being placed downward on the knee, try to fully extend the injured knee joint.

PROGRESSIVE RESISTIVE EXERCISE

LEG EXTENSION

Sit on a high table with leg dangling. Suspend weights from your ankle . Lift the weight upward, fully extending the knee and hold the load momentarily. Then slowly lower the leg until the knee is again bent 90 degrees. You may want to put a wedge or rolled up towel under the knee.

Universal leg Machine Leg Extension

Orthotron

LEG FLEXION

Lie face down on table with resistance on heel, flex leg towards buttocks.

Universal Machine Leg Flexion

Orthotron

TOE RAISES

BICYCLE

ENDURANCE RUNNING

SKIPPING ROPE

CUTTING AND FIGURE EIGHTS

RUNNING PROGRESSION

Jog 50 yds, walk 50 yds: Start 10 reps: goal 20 reps

Jog 75 yds, Walk 25 yds: Start 10 reps: goal 20 reps

Jog 100 yds, start 10 reps: goal 20 reps

1/2 Speed 100 yds sprint: start 10 reps goal 20 reps

3/4 speed running 75 yds: start 10 reps goal 20 reps

Full speed 40 yds sprint: start 10 reps goal 20 reps

Figure 8 pattern running.

Stops and starts.

Zig-Zag running.

Cuts 1/4 speed, 1/2 speed, then full speed.

SHOULDER REHABILITATION PROGRAM

BEGINNING EXERCISES

RANGE OF MOTION EXERCISES

Forward flexor - Keeping the elbow straight and stiff, raise the arm forward and then return to starting position. (3 sets of 15 reps. Minimum of 3 times daily)

Lateral (sideward) raises - Keeping the elbow straight and stiff, raise the arm sideways (laterally) from the body and then return to starting position. (3 sets of 15 reps. Minimum of 3 times daily)

Posterior (backward) Raises - Keeping the elbow straight and stiff, raise the arm backward and then return to starting position. (3 sets of 15 reps, Minimum of 3 times daily)

Rotation - Keeping the elbow tight to the side of the body and then rotate the arm externally and internally. (3 sets of 15 reps. Minimum of 3 times daily)

APE DRILL

Perform these exercises before a mirror so that your can make sure you don't lean the body forward or sideways.

Clockwise Circles - Keeping the trunk bent forward at a 90 degree angle, allow the shoulder to relax and slowly swing the arm in a clockwise circular pendulum motion.

Counterclockwise Circles - Same position as above, except swing the arm in a counterclockwise motion.

Backward and Forward Swings - Same position as above

except for swinging the arm forwards and backwards along the side of the body in a Pendulum motion.

Sideward Swings - Same positioning as above except for swinging arm out sideways from the body and back towards the body in a pendulum motion in front of the body.

ALL THESE EXERCISES SHOULD BE PERFORMED 3 SETS OF 15 REPS A MINIMUM OF 3 TIMES DAILY.

WALL CLIMB

Sideward wall climb - Injured side to the wall. Arm bent, walk arm up wall as high as the shoulder will permit by alternately moving the forefinger and middle finger. Lower arm in the same manner. (3 sets of 10 reps. Minimum of 3 times daily)

Forward wall climb - Same as sideward wall climb except the patient faces the wall.

ISOMETRIC EXERCISES

Chair press - Bend knees so arms are perpendicular to the back of a chair. Grasp the back of the chair and press inward for 6 seconds. Repeat 4 more times.

Doorway Press - Stand in a standard, one door doorway with elbows kept straight. Press outward for 6 seconds. Repeat 4 or more times.

Table Press - Stand erect. Grasp the corners of a table with arms straight and press inward for 6 seconds. Repeat 4 more times.

Atlas resister - Force fist into palm of opposite hand. Offer great resistance with the palm of the opposite hand for 6 seconds. Repeat 4 more times.

Chain breaker - Resistive exercises in which you make believe you are breaking a chain across your chest, by clasping your hands together then you will begin attempting to pull them apart for 6 seconds. Repeat 4 more times.

SHOULDER SHRUG

Shrug shoulder up, back, down and forward in a rotary motion . (3 sets of 15 reps a minimum of 3 times daily.)

BENCH EXERCISE

Perform these only when able to raise arm to shoulder level.

Supine Arm Raise - Lying on bench on your back with arm extended to the side at shoulder level, raise arm to perpendicular position above the body, then lower to starting position. (3 sets of 15 reps)

Prone Arm Raise - Lying on bench on your stomach with arm extended to the side at shoulder level, raise and lower arm slowly holding at 90 degree angle to the body. (3 sets of 15 reps)

INTERMEDIATE EXERCISES

To be performed only when you can obtain full range of motion in every possible shoulder motion.

Push-ups - Start with kneeling push-ups and progress to regular push-ups with back straight. Start with 10 reps and progress to 25 to 30 reps 3 times daily.

Body support - Support your body weight between arms of a sturdy chair, the backs of two sturdy chairs, or parallel bars for 6 seconds. Repeat nine more times, 3 times daily.

Ape Drill with a Weighted end Dumbell - Perform same exercise as in Ape Drill except use a dumbell with 2 pounds of weight on one end.

When you can do 5 sets of 10 reps in each of the lifting patterns, increase the weight 5 pounds and start the exercises over again.

REHABILITATION OF ELBOW, FOREARM, WRIST AND HAND INJURIES

GOALS

Develop full range of motion

Restore strength and flexibility to surrounding muscle groups

ELBOW REHABILITATION EXERCISES

Passive stretching

Rubber tubing in all ranges of motion. 3 sets of 10 reps increasing in tube strength.

Build up to progressive resistive exercise program, with flexion, extension, supination, and pronation.

FOREARM, WRIST AND HAND REHABILITATIVE EXERCISE

Grip strength

Wrist curls

Towel squeeze

Ball squeeze

3 sets of 10 reps, 2 times daily.

TURF TOE (Physician and Sports Medicine, 1988)

Start by doing each exercise ten times. Increase repetitions by five each day, up to a total of 30 repetitions.

PULLING EXERCISES

Sit on floor with legs straight out in front. Place a towel around ball of foot. Grasp both ends of towel with hands, pulling foot toward knee. Stretch to the count of five then release.

Same as above, except pull more with right hand to bring foot to right, then pull with left hand to bring foot to left.

Repeat both with knee bent about 30 degrees.

FLEXING EXERCISES

Sit on floor with legs straight out in front. Flex foot upward toward face, curling toes under at the same time. The sequence is foot up, toes down, foot down, toes up.

Sit on floor with legs straight out in front, placing both heel and ball of foot flat against a wall flex toes toward face. Hold to count of five then relax.

Repeat both with knee bent 30 degrees.

SLIDING EXERCISES

Sit in chair with knee bent and foot flat on floor under knee. Keeping heel and ball of foot on floor, raise toes. Keeping toes up, slide foot back a few inches, relax toes.

Then raise toes again and slide foot back a few more inches. Keep raising the toes and sliding foot back until you can no longer keep heel on floor while raising the toes.

From starting position, slide foot forward as far as you can keeping both toes and heel in contact with floor. Keeping heel on floor and the knee straight, flex foot up toward knee. Then point foot, pressing toes on floor.

Repeat exercise above except keep toes curled as you stretch and point foot.

From starting position, claw the toes, inching foot forward as toes claw, then release. Separate toes between clawing. Inch out as far as possible, then slide back and start again.

PRESSING EXERCISE

Sit in chair with knee bent and foot flat on floor under knee. Raise heel, keeping toes flat on floor; then press down again. Leaning upperbody allows for greater stretch.

ROLLING EXERCISES

Sit in chair with knee bent and foot flat on the floor under knee. Turn inside edge of foot toward face (supinate), keeping outside edge on the floor. Hold to count of five. Do not let knee move during this exercise.

From starting position, raise big toe, then next toe, progressing to little toe. Reverse, going from little toe to big toe.

From starting position, slightly lift heel, putting weight on lateral borders of foot. Roll from little toe to big toe, then back toward heel with out letting the heel touch the floor. You are making a complete circle around the ball of foot. Repeat and reverse.

ANKLE REHABILITAION

RANGE OF MOTION

Flexion - Flex foot as far as possible, point toes upward.

Extension - Extend foot as far as possible, point toes down.

Inversion - Turn soles of feet inward.

Eversion - Turn soles of feet outward.

IF THE ABOVE EXERCISES CAN BE DONE BEGIN THE FOLLOWING;

Foot circles - Foot circumscribes a small circle. Ball of foot down first, then in, up, and out.

Alphabet - Sitting on table with knee straight and only ankle extended over the end of table, print alphabet first in capital letters then in small, using your toes to draw each letter.

Wabble board - 30 times clockwise the counterclockwise

Balance board - 3 minutes in one direction and 3 minutes in the other direction

ONCE THE ABOVE CAN BE DONE PAIN FREE, BEGIN;

Towel exercises - Sitting on a chair with foot on a towel pull towel up under foot with toes. After completing the above part successfully, place a weight on the other end of the towel to offer resistance.

Pick-up Exercise - Pick up marbles, a small piece of

sponge rubber, or partly used gauze roller bandage. Alternate placing the object in the hand opposite knee of good leg and in the hand behind buttocks of injured leg.

Toe Raises - Stand with feet one foot apart and toe in. Rise on toes as high as possible without pain. Also, repeat this exercise with toes pointed straight ahead and pointed out.

Slant board - stretch achilles 30 seconds several times on the slant board.

UPON PAIN FREE COMPLETION OF THE ABOVE BEGIN

Repeat range of motion exercises with the trainer giving resistance to the exercises with his/her hand or use graded elastic tubing.

AFTER ATHLETE HAS PROGRESSED THROUGH THE TUBING LEVELS BEGIN THE RUNNING PROGRESSION EXERCISES LISTED IN REHABILITATION OF THE KNEE.

CRUTCH FITTING

Adjust the overall length so that the shoulder portion of the crutch is approximately 1 to 1 1/2 inches or about 2 to 3 fingers width below the arm pits of the patient while he or she is standing erect.

Adjust the handgrip portion so that the elbow is bent approximately 30 degree. Place the handgrip so that it is approximately even with the top of the patient's hip line.

TAPING

ARCH SUPPORT TAPING PROCEDURE

Spray the area with adhesive, put a heel pad on the lower part of the heel and secure with a light coat of underwrap.

Place an anchor strip just in front of the metatarsal head, taking care not to pull to tight.

Begin medially, run the tape along the side of the foot, across the back of the heel and finally up and diagonally across the arch to the starting point. Repeat. SEE FIGURE 1

Begin at the middle of the anchor, run the tape diagonally downward, across the back of the heel and diagonally upward returning to the starting point. Repeat. SEE FIGURE 2

Begin laterally, run the tape down the side of the foot, across the back of the heel and diagonally upward across the arch returning to the starting point. Repeat. SEE FIGURE 3

Close the taping procedure by overlapping circular strips around the anterior portion of the foot. Take care not to get them too tight.

ARCH TAPING PROCEDURE

FIGURE 1

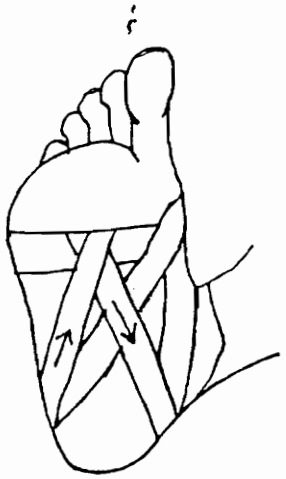

FIGURE 2

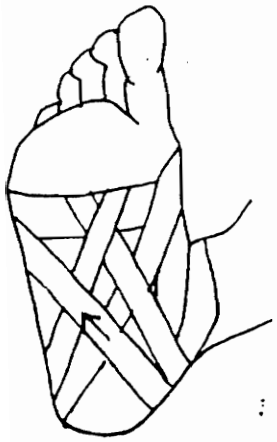

FIGURE 3

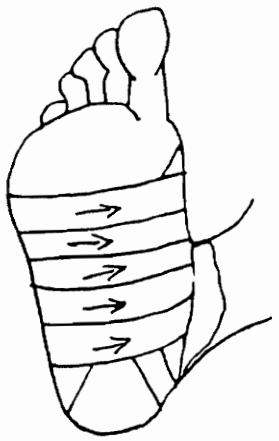

FIGURE 4

OPEN BASKETWEAVE TAPE PROCEDURE

Spray the area with the adhesive, put on a heel pad, and cover the area with underwrap.

Apply a foam horseshoe over both malleoli. Anchor the tape to the skin, being sure that the strips do not meet in front. Begin the stirrup one half the width down on the anchor. SEE FIGURE 1.

Anchor the stirrup at the top, dropping down one half the width of previous anchor. The next two stirrups should begin one half the width of the previous stirrup to the posterior. Each stirrup has a corresponding anchor at the top. SEE FIGURE 2 AND 3.

Once the horizontal anchor strips have reached the heel conclude the job by continually overlapping strips down to the toes. The finished product should appear as if a regular tape job has been cut off directly down the front, shrunk and put on the foot. Thus leaving a gap down the front of the leg onto the foot.

OPEN BASKET WEAVE TAPING PROCEDURE

FIGURE 1

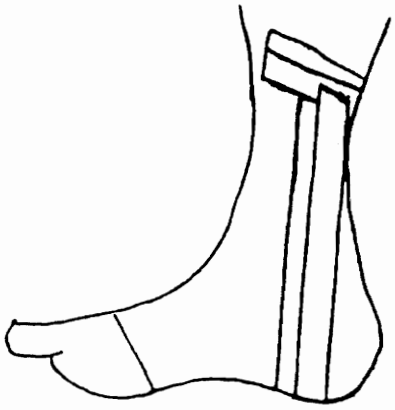

FIGURE 2

FIGURE 3

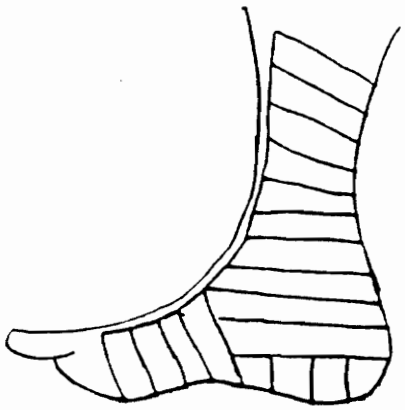

FIGURE 4

ANKLE TAPING PROCEDURE

Athlete holds foot at a 90 degree angle in slight eversion. Spray the area with adhesive, place heel and lace pads on the foot, and cover the area with underwrap. Apply two anchor strips. SEE FIGURE 1

Apply three stirrups with corresponding "C" strips. Pull on the lateral aspect of the stirrup for inversion prevention and up on the medial aspect for eversion protection. Fan the stirrups at the anchor. Overlap the "C" strips by one half the width of the tape. SEE FIGURES 1 & 2

Apply the heel locks, beginning from the outside, across the instep, under the foot and across the heel, and return to the starting point. Repeat in the opposite direction. Then do another set of heel locks. SEE FIGURES 3 & 4.

Apply two figure of eights, beginning from the out side and pull up on the arch. SEE FIGURE 5

Close the tape job by using overlapping circular strips. Begin at the anchors and work your way down to the mid arch. SEE FIGURE 6

Check for overall neatness, wrinkles and gaps.

ANKLE TAPING PROCEDURE

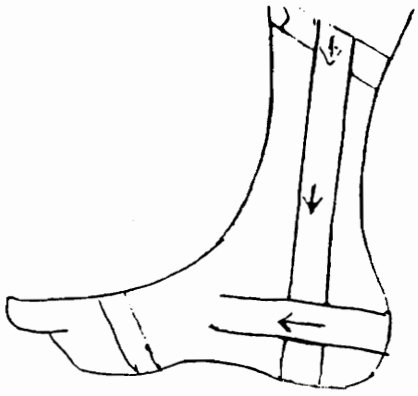

FIGURE 1

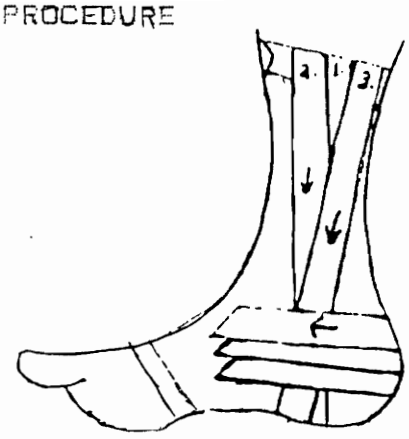

FIGURE 2

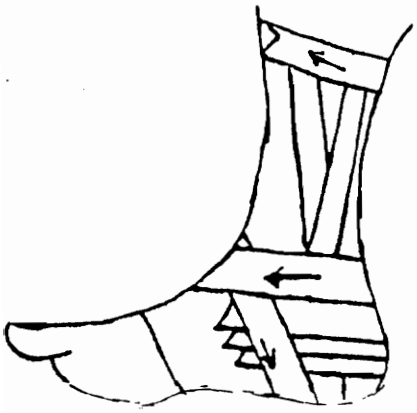

FIGURE 3

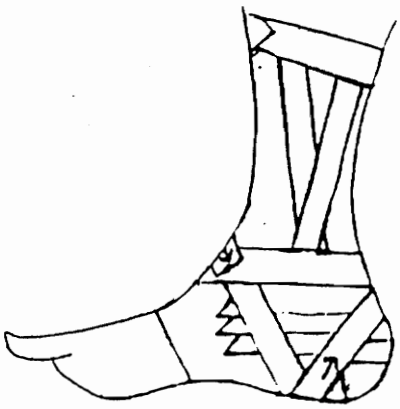

FIGURE 4

FIGURE 5

FIGURE 6

FIRST AID/MEDICATIONS

ONE RESCUER CPR ADULT VICTIM (American Red Cross, 1988)

ASSESSMENT/AIRWAY

Determine Unresponsiveness

Tap or gently shake shoulder

Shout "Are You Okay?"

SITUATION: victim is unresponsive

Call for help

Use head-tilt/chin-lift to open airway

One hand on forehead

Fingertips under bony part of jaw near chin

Tilt head without closing the mouth

Check Breathing

Maintain open airway

Ear over mouth

Look at chest, listen and feel for breathing (3 - 5 sec.)

SITUATION: VICTIM IS NOT BREATHING

BREATHING

Give Two Full Slow Breaths

Maintain open airway

Seal mouth and nose

Ventilate 2 times at a 1 to 1.5 sec per inflation

Observe chest rise

Allow for chest deflation after each breath

CIRCULATION

Check pulse

Maintain open airway

Locate Adam's apple

Slide fingers to groove on the same side of neck as rescuer

Feel carotid pulse for 5 to 10 seconds.

Head in position to check breathing

SITUATION VICTIM DOES NOT HAVE A PULSE

Activate EMS system

Direct someone to call the ambulance

BEGIN CPR

Assume correct hand position

Rescuer kneels by victim's shoulders

Find substernal notch

Measure up one finger width above notch

Place heel of other hand on sternum

Place second hand on top of first

Keep fingertips off chest

Apply correct compression

Keep shoulders over sternum

Keep elbows straight

Compress 1 1/2 to 2 inches

Apply smooth compressions and release

Maintain proper hand position

Compression rate: 80 to 100/min

Keep hands on sternum during upstroke

Count out loud

Provide proper ventilations

Maintain open airway

Seal mouth and nose

Give 2 full slow breaths after 15 compressions

Complete breaths and return to compressions

Continue CPR for one minute

Complete 4 cycles of 15 compressions and 2 ventilations

REASSESSMENT

Recheck pulse

Maintain open airway

Locate carotid pulse

Feel for 5 seconds

Head in position to check breathing

SITUATION: VICTIM STILL HAS NO PULSE

Continue CPR

Ventilate 2 times

Maintain open airway

Seal mouth and nose properly

Give 2 full slow breaths

Resume Compressions and Ventilations

Locate proper hand position

Continue compressions at rate Of 80 to 100/min

Maintain cycles of 15 compressions and 2 ventilations

Reassess pulse every few minutes

HEAT PROSTRATION (West Virginia University, 1987)

HEAT EXHAUSTION

Quite common and less serious

CAUSE

Hot, humid weather; working in tight heavy clothing; heavy exercise; poor physical condition; overwork; lack of salt and water.

SIGNS/SYMPTOMS

Sweating profusely, may turn to cold clammy sweat, temperature is normal or slightly elevated, faint feeling, pale face with a weak rapid pulse, shallow breathing, nausea, headache, exhaustion, collapse and loss of consciousness.

TREATMENT

Treat for shock, place in a well ventilated room, remove clothing, use an electric fan to cool the patient. Give the patient a saline solution if available. Place the patient in a shower, clothes and all or sponge off with cold water. Massage extremities lightly.

PREVENTION

Be sure that athletes have an adequate intake of salt and water, and give enough time for acclimatization to occur.

HEAT STROKE

Less common and quite serious

CAUSE

Hot, humid weather; physical exertion; lack of salt and water, direct sun rays and the use of alcohol.

RECOGNITION

There is no sweating and the skin is hot and dry. The patient's temperature is 106 to 112 degrees. Chest pains may be present, skin flushed and grayish, and a strong, rapid pulse is felt. There will be labored breathing, nausea, headache, exhaustion, collapse, convulsions and loss of consciousness. The pupils contract first and then will later dilate.

TREATMENT

Call or take the patient to a doctor immediately. Cool the individual the best way possible either put in a bathtub full of ice until temperature drops to 100 degrees, wrap in a wet sheet and sit in front of a fan, or sit in a chair in a cold shower. Keep the individual in a semi-reclining position, complete reclining may be hard on heart.

PREVENTION

Adapt activities to the environment and educate those supervising activities conducted in the heat to the importance of water and breaks. Screen participants with past history of heat illness and monitor their conditions more closely. Always see that there is an adequate intake of salt and water.

BLISTER CARE (Anrheim, 1989)

INTACT BLISTER

Leave the blister intact for the first 24 hours. Often during that time many of the symptoms will lessen.

If the blister is large and in a place on the skin that will be continually irritated, clean it thoroughly with antiseptic soap.

With a sterile scalpel, cut a small incision 1/8 to 1/4 inch long in the blister along the periphery of the raised tissue. The hole should be large enough so that it will not become clogged.

Disperse the fluid by applying a pressure pad keeping the pad in place to prevent refilling.

Clean the area with an antiseptic, and place a doughnut around to prevent irritation. You may also fill the blister with zinc oxide to aid in drying.

Monitor the blister daily for signs of infection.

Clean and replace dressing daily and after practice.

When the tenderness is completely gone, denude the area; however do not remove skin if any tenderness persists.

OPEN BLISTER

Keep the open blister clean to avoid infection. In the beginning of management, carefully and thoroughly wash with soap and water. Apply an antiseptic dressing.

Lay the flap of skin back over the treated tissue; then apply a sterile dressing and doughnut pad.

Monitor the open blister daily for signs of infection.

DENUDED BLISTER

If the blister is torn 1/2 inch or more, completely remove the flap of skin.

Completely clean the exposed tissue with soap and water. Apply an antiseptic liquid.

If the athlete has completed his activity, apply the "second skin" dressing to the raw area. Pad with a doughnut.

GENERAL PHARMACEUTICAL CLASSIFICATIONS (Arnheim, 1988)

ANALGESICS OR ANODYNES - pain relieving drugs.

ANESTHETICS - agents that produce local or general insensibility to touch, pain, or stimulation.

ANTACIDS - substances that neutralize acidity, commonly used in the digestive tract.

ANTICOAGULANTS - agents that prevent coagulation of blood.

ANTIDOTES - substances that prevent or counteract the action of a poison.

ANTIPRURITICS - agents that relieve itching.

ANTISEPTICS - agents that kill bacteria or inhibit their growth and can be applied to living tissue.

ANTISPASMODICS - agents that relieve muscle spasms.

ANTITUSSIVES - agents that inhibit or prevent coughing.

ASTRINGENTS - agents that cause contraction or puckering action.

BACTERIOSTATIC AND FUNGISTATICS - agents that retard or inhibit the growth of bacteria or fungi.

CARMINATIVES - agents that relieve flatulence in the GI tract.

CATHARTICS - agents used to evacuate substances from the bowels, active purgatives.

CAUSTICS - burning agents capable of destroying living

tissue.

COUNTERIRRITANTS - agents applied locally to produce an inflammatory reaction for the relief of a deeper inflammation

DEPRESSANTS - agents that diminish body functions or nerve activity.

DISINFECTANTS - agents that kill or inhibit the growth of microorganisms; should be applied only to nonliving materials.

DIURETICS - agents that increase the secretion of urine.

EMETICS - agents that cause vomiting.

HEMOSTATICS - substances that either slow down or stop bleeding or hemorrhage.

IRRITANTS - agents that cause irritation.

NARCOTICS - drugs that produce narcosis or complete insensibility.

SEDATIVES - agents that quiet body activity.

SKELETAL MUSCLE RELAXANTS - drugs that decrease neural activity within skeletal muscle.

STIMULANTS - agents that temporarily increase functional activity.

VASOCONSTRICTORS AND VASODILATORS - drugs that respectively constrict or dilate blood vessels.

TRAINING ROOM NONPRESCRIPTION MEDICINE (Arnheim, 1988)

CATEGORY	INGREDIENTS	BRAND
GI upset	Aluminum & magnesium in liquid suspension	Maalox
Constipation	Food roughage	Metamucil or Mucilose
Skin wounds	Bactericide	Achromycin, Terramycin
Insect bite or sting, Athletes feet	Antipruritic, Tolnaftate, undecylenic acid, and zinc undecylenic	Alcohol, calamine lotion, aftate, Desenex
Jock itch	Drying agent	Corn starch, Zeasorb powder, talcum powder
Pain Inhibition	Nerve inhibitor, counter irritants, Acetylsalicylic acid	cold producers, balms, liniments aspirins
Cold or allergy	Decongestants, chlortrimeton	Sudafed, Neo-Synephrine

NUTRITIONAL INFORMATION

What an athlete eats and drinks has a dramatic effect on their performance. Carbohydrates are the body's natural source of energy, but there are different types of carbohydrates, some less nutritional than others. To eat, or what to eat is always a difficult question. In order to prevent some of the confusion here are some very basic quidelines to aid in food choices.

WHAT TO EAT	% OF TOTAL INTAKE	WHAT TO AVOID
Complex CHO breads, cereals fruits, veggies	50 to 60 %	Candy bar, soda, quick energy sources
PROTEIN Chicken, fish, turkey, lean beef and pork	12 to 15 %	Fatty meats, excess skins and breadings
FATS Low fat milk, and cheese	less than 30 %	Fried foods, butter, sauces or gravies.

Try to eat only when hungry and always make time for breakfast.

One serving of meat a day is usually adequate

Fat has more than double the calories of protein and CHO

Alcoholic beverages are high in calories and low in nutrition.

Fasting confuses the body, and may cause weight gain.

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APPENDICES

APPENDIX A

TELEPHONE LIST

STUDENT TRAINERS

Cheryl Barbour	9900 L Foxridge	Mike Isbell	552 - 5921
Laura Corsey	Dutchvillage	Cari Kammerer	232 - 3096
Amy Costello	232 - 5900	Jason Keesee	232 - 2179
Malia Craig	232 - 5158	Jennifer Marshall	232 - 1729
Bobby Duvall	961 - 3534	Jeff McGraw	953 - 1385
Julie Gloudemans	232 - 4188	Penny Sotos	552 - 6330
Dawn Hardison	232 - 1505	Roslyn Speaks	232 - 1677

GRADUATE ASSISTANTS

Joey Plivelich	951 - 9487	Joe Witt	953 - C064

TRAINERS

Eddie Ferrell
Home: 552 - 7934
Office: 231 - 6410

Teresa Melton
Home: 552 - 0625
Office: 231 - 6938

Jimmy Lawrence
Home: 552 - 8766
Office: 231 - 5690

PHYSICIANS

Dr. Duane Lagan
Home: 951 - 1890
Office: 231 - 5983

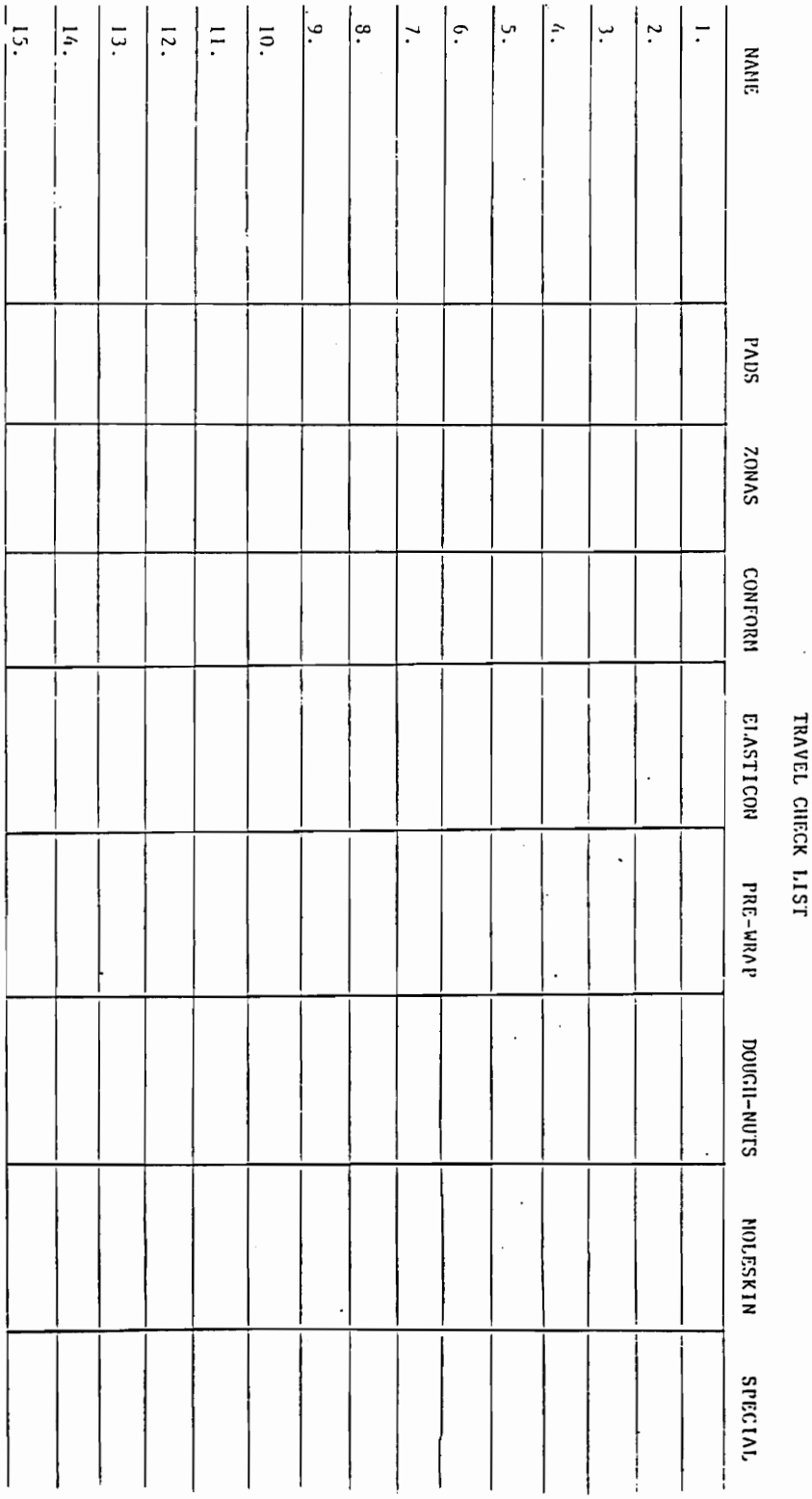
Dr. Marc Siegel
Home: 552 - 9184
Office: 552 - 3601

EMERGENCY NUMBERS ONLY

Student Health	231 - 6444	VA State Police	1-800-542-7336
Montgomery Hospital	951 - 1111	South West Virginia Poison Center	1-703-981-7336
Rescue Squad	911		

APPENDIX B

TRAVEL CHECK LIST



TRAVEL CHECK LIST

NAME	PADS	ZONAS	CONFORM	ELASTICON	PRE-WRAP	DOUGH-NUTS	MOLESKIN	SPECIAL
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								

APPENDIX C

NATA APPLICATION

NATIONAL ATHLETIC TRAINERS' ASSOCIATION, INC.

1001 E. 4th • Greenville, NC 27834

Application for STUDENT Membership

Send the completed form to the National Office.

ALL INFORMATION EXCEPT SIGNATURES MUST BE TYPEWRITTEN

SECTION A

Name Ms. Mrs. Mr. _____ Tel. No. ____ / ____

Last First Middle

Permanent Home Address _____

Number Street

_____

City State Zip

All communication from the NATA National Office will be sent to your permanent home address.

School Address _____

_____

Date of Birth _____ Soc. Sec. No. _____

Month Day Year

Give dates and membership class of any previous NATA membership _____

_____ Prev. Membership No. _____

In brief the qualifications for STUDENT membership are:

1. Applicant must be currently enrolled in one or more courses for credit in an accredited college or university, and
2. Person must not have earned bachelor's degree at time of application, and
3. Applicant must currently be making progress toward fulfillment of the requirements for NATA Certification. This requirement may be satisfied by enrollment in at least one college course pertaining to athletic training and/or by doing supervised student athletic training work under a NATA Certified Athletic Trainer.

See accompanying information sheet for more details.

SECTION B

Verification of college/university enrollment:

I am currently enrolled as an UNDERGRADUATE student at:

_____

College or University Expected Date of Graduation

SECTION C

If applicant is not working as a student athletic trainer under the supervision of a NATA Certified Athletic Trainer indicate enrollment in at least one course (for credit) pertaining to athletic training.

Course Title Credit(s) Course Dates

_____

_____

Enclose verification from college registrar.

Signature of Applicant _____

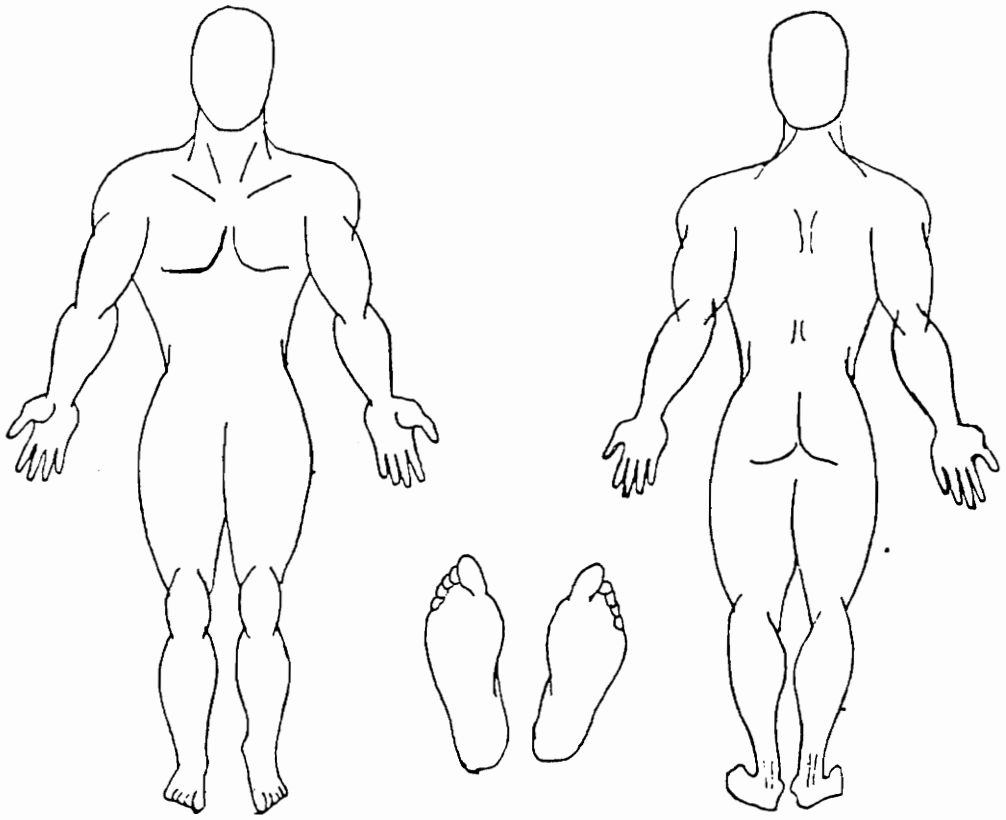
APPENDIX D

INJURY REPORT

NAME_____

VIRGINIA TECH PLAYER INJURY REPORT

SPORT_____



Time and Date of Injury_____ Reported_____

Place of Injury_____ Body Part Injuried_____

Mechanism of Injury_____

Symptoms_____

_____

Clinical Impression_____

Medical Diagnosis_____

Previous Related Injury_____

Immediate Treatment_____

Planned Treatment_____

Examined By_____ Date_____

Date	AM/PM	Doctor	X-Ray	Medications	First Aid	Ice Pack	Ice Bath	Ice Massage	Contrast Bath	Whirlpool	Hydrocollater	EMS				Ultrasound				Massage	Bike	Rehab
												Setting	Intensity	Polarity	Time	Continuous	Pulsed	Under water	Intensity			

APPENDIX E

CUMULATIVE INJURY REPORT

CUMULATIVE INJURY REPORT

NAME:_____ SPORT:_____ YEAR_____

Injury	Reported	Resolved	Clinical Impression	Diagnosis	Doctor	Meds	X-ray	Rehab	Previous Injury

APPENDIX F

FREE TIME REQUESTS

Name:

SEMESTER/YEAR:

LOCAL ADDRESS AND PHONE:

Home ADDRESS AND PHONE:

Social Security Number:

Year In School:

Tentative Class Schedule

Period Hour	Monday	Tuesday	Wednesday	Thursday	Friday
08 (8:00 AM)					
09 (9:00)					
10 (10:00)					
11 (11:00am)					
12 (12 NOON)					
13 (1:00 PM)					
14 (2:00)					
15 (3:00)					
16 (4:00)					
17 (5:00)					
18 (6:00)					
19 (7:00)					
20 (8:00)					

APPENDIX G

DRUG TESTING PROGRAM

DRUG TESTING PROGRAM

As a condition of participation in intercollegiate athletics, all student athletes must undergo urinalysis drug testing.

The following is a description of how the testing program has been implemented.

1. At the beginning of the school year all student athletes will be required to attend a physical exam/drug orientation meeting. At this meeting the students will be scheduled for physical exams, given a copy of the drug program, listen to a presentation by the team physician on the drug program, and sign the drug consent form.

2. Team drug testing will begin shortly after the orientation has been completed. Team testing will be done weekly until all the teams have been tested. Teams with small squads will be grouped together with other teams so we will always test around eight (80) student athletes.

   When a team is to be tested their coach will be given written notification at noon the day before testing. It is his responsibility to notify the student athletes. The list will be posted at designated areas in the coliseum. The testing will be conducted in room 160 Cassell Coliseum. Testing will be according to standard protocol. (See appendix).

3. After the team testing has been completed we will begin random testing. Three random groups have been selected.

Football	1-126
Men's Basketball	1-15
Women's Basketball	1-15
Non-Revenue	1-337

   We established four groups to draw from so that we can be assured of selecting football and basketball players on each testing day.

   The Virginia Tech Systems Development Center has given us a program from which we can select our randoms. We have access to this program on the computer in the office of the Academic Counselor.

   We will select approximately twenty (20) students for the random test.

Football	5
Men's Basketball	2
Women's Basketball	2
Non-Revenue	12

   When the selections are made the appropriate coaches will be notified by hand delivered memo or when necessary by phone. This notification will be by noon the day of the test.

   The random testing will be held in room 111 Cassell Coliseum. The students are to report to the testing area between 6:00-7:30 PM. Samples will be collected according to the standard protocol. (see appendix). Samples will be collected no earlier than 6:00 PM and no one will be admitted after 7:30 PM.

Initially we will do the random test weekly and later switch to a bi-monthly schedule.

DISPOSITION OF POSITIVE RESULTS

The team physician receives results from the lab and follows up on any positive results:

1. Coach is notified.
2. Parents may be notified.
3. Team physician sets up counseling session at counseling service.
4. Number of sessions is determined by counseling service.
5. Because of medical legal implications counseling services will communicate with team physician.
6. Athlete will be re-tested for an indefinite period of time. The re-testing will be done with the random groups.

Presently we do the Industrial Panel Six Drug Screen. (IDPG)

amphetamine	cocaine
barbiturates	opiates
PCP	THC

As of September 1988 we have done 637 urine drug screens.

APPENDIX H

READING LIST

Arnheim, Daniel D. (1989). Modern Principles of Athletic Training 7th ed. Mirror/Mosby College Publishing, St. Louis.

Chistian J. & Greger J. (1985). Nutrition for Living. Benjamin/Cummings Publishing Co. inc., California.

Ellison, Arthur MD. (984). Athletic Training & Sports Medicine. American Academy of Orthopaedic Surgeons, Chicago.

Gray, Herny FRS. (1977). Grays Anatomy. Bounty Books, New york.

Hoppenfeld, Stanley. (1979). Physical Examination of the Spine & Extremities. Appleton-Centry Crofts, East Norwak.

Krusen, Kottke, Ellwood. (1965). Handbook of Physical Medicine and Rehabilitation. W.B. Saunders Co., Philadelphia.

O'Donoghue. (1984). Treatment of Injuries to Athletes 4th ed. W.B. Saunders Co., Philadelphia.

Riegler, Hubert F. (1979). Surface Anatomy for Coaches and Athletic Trainers. Charles C. Thomas inc., Springfield.

Torge E., Vegso, Torge J. (1987). Rehabilitation of Athletic Injuries. Year Book Medical Publishers, Chicago.

APPENDIX I

Chain of Command Guide

SEVERE BUT NOT LIFE THREATENING

1. Assessment
    a. A B C's
    b. Obvious Abnormalities
    c. Vital Signs
2. Stabilize
    a. Emotionally
        1. Calm down
        2. Reassure
    b. Physically
        1. Bleeding
        2. Paralysis
        3. Splinting
    c. I. C. E. R.
    d. Contact Team Physician
        1. Office number
        2. Beeper number
    e. Hospital or Campus Medical Facilities
        1. Call ahead
        2. Transport if not a back or neck injury

LIFE THREATENING SITUATION

1. A. B. C. 's
2. Call rescue squad

3. Inform team doctor if possible
    a. Office number
    b. Beeper number
4. Monitor vital signs
5. Accompany athlete if possible
6. Call to notify trainer
    a. Office number
    b. Home number