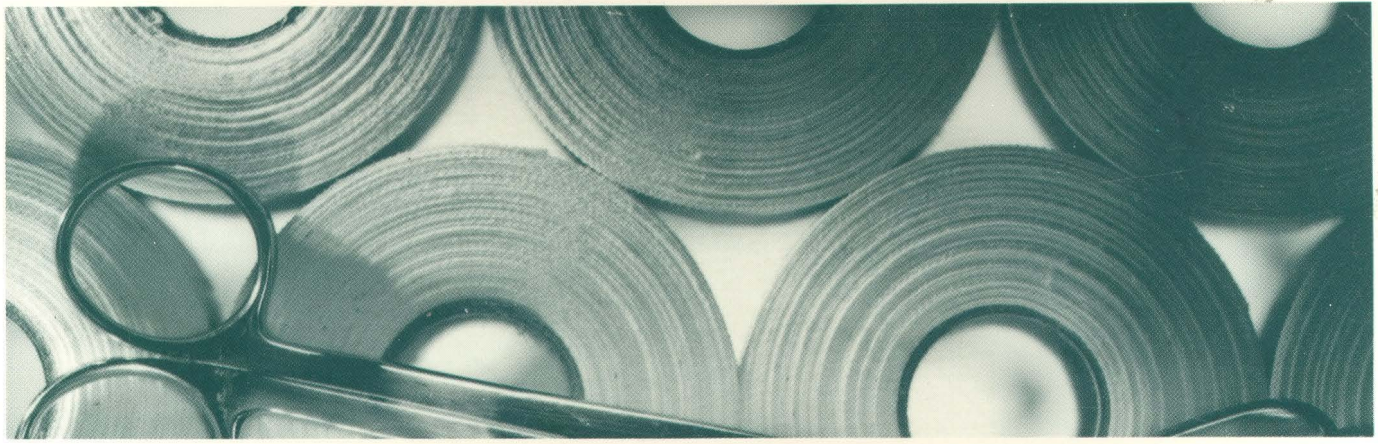




THE
— • —
COMPREHENSIVE
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MANUAL
— • —
OF TAPING
— • —
AND WRAPPING
— • —
TECHNIQUES
— • —
SECOND EDITION

Kenneth E. Wright, D.A., ATC
and
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DEDICATION

The authors, along with all contributors to the manual, would like to dedicate this text to all the young professionals in the discipline of athletic training.

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PREFACE

The purpose of this manual is to present a current comprehensive guide to taping/wrapping techniques, traditionally used in various professions of sports medicine. The primary function of all of these procedures is to provide support and stabilization, or compression to the affected body part.

A basic understanding of human anatomy, biomechanics, injury evaluation and rehabilitation protocol is important. The first chapter explains various fundamentals of taping and wrapping procedures concerning the preparation of the athlete prior to the application of any taping/wrapping technique. Chapters 2 through 7 are broken into these parts:

- assessing an injury
- anatomical graphics
- common terminology
- purpose and application of adhesive and elastic tape or elastic wrap for compression or support
- selection of athletic training supplies and specialty items
- sports specific rules on taping
- musculoskeletal disorders
- special techniques - adjunct taping procedures
- preparation of body part for taping or wrapping
- proper body positioning
- taping or wrapping techniques.

To enhance the understanding of specific techniques, the reader should review these items prior to practicing the selected procedures.

Each taping/wrapping technique will follow a standard format. This format will have these components:

Purpose	Supplies Needed
General Condition Procedure Used For	Pre-Taping Procedure
Anatomical Structure	Taping Procedures
Anatomical Position	Adjunct Taping Procedure

It is highly recommended that you read the entire procedure first and then return to the beginning of the technique and apply the tape and/or wrap. We encourage that you master each of the fundamental taping/wrapping techniques. There are variations of the basic technique, titled Adjunct Taping Procedures. Under special conditions, these adjunct procedures could provide additional support and/or stability to the affected body part.

It is imperative that a physician evaluate the injury. In addition, treatment protocol, a rehabilitation program and the application of supportive or compression taping/wrapping techniques should be incorporated. These components will help enhance an athlete's return to active participation. The taping/wrapping techniques presented in this manual represent the basic fundamentals. Your skill to adapt these techniques to your particular situation is encouraged.

Tape edges are darkened for better picture clarity.

NATIONAL ATHLETIC TRAINERS' ASSOCIATION

The Athletic Training Profession

In 1990, the American Medical Association recognized athletic training as an allied health profession. This endorsement is providing monumental benefits for the advancement of athletic training as a profession and for the professional development of the student athletic trainer. The National Athletic Trainers' Association (NATA) is the primary professional association of athletic trainers in the United States. Since the early 1960s, the NATA has assumed the leadership in establishing high standards for the education and certification of athletic trainers. For more information on professional preparation or careers in athletic training you should contact:

National Athletic Trainers' Association
2952 Stemmons Freeway
Dallas, TX 75247
1-800-TRY-NATA

Now that we know a little of what the profession of athletic training is and what it involves, we need to know who the people are that represent this exciting profession. The athletic trainer is a professional who is well educated to carry out the tasks mentioned in the previous sections. A thorough knowledge of anatomy, physiology, physiology of exercise, psychology, first aid, cardiopulmonary resuscitation, nutrition, remedial exercise, and courses in athletic training are required in order to carry out these duties.

The National Athletic Trainers' Association (NATA) is the administrative organization that dedicates its endeavors to the advancement, encouragement, and improvement of the athletic training profession. An athletic trainer who follows the educational procedures set forth by the NATA is then eligible to take an examination which, if successfully passed, entitles the athletic trainer to be a "Certified Athletic Trainer" (ATC).

Educational Programs: Curriculum and Internship

Student athletic trainers have the option to pursue one of two educational routes toward National Athletic Trainers' Association Board of Certification (NATABOC) certification. NATA approved Educational Programs provide a study in athletic training education which is approved by the Board of Directors of the NATA. Successful completion of an CAAHEP accredited and/or NATA-approved athletic training education program includes a minimum of 800 hours of clinical experience under the supervision of a NATABOC Certified Athletic Trainer from the college or university sponsoring the NATA-Approved Program. Internship programs are designed to provide a practical education/work experience concept approach to gaining the knowledge and skills needed to fulfill the requirements for internship candidacy. Internship programs require the completion of 1500 hours of athletic training experience under the supervision of a NATABOC Certified Athletic Trainer.

Student athletic trainers, regardless of whether they complete a curriculum or internship program, must take one formal course in the following areas: anatomy and physiology, exercise physiology, kinesiology/bio-mechanics, personal health, basic athletic training, and advanced athletic training. To become a certified athletic trainer, individuals must:

- Complete either an internship or curriculum program
- Show proof of graduation from an accredited college or university
- Show proof of current certification in First Aid and CPR
- Show proof that at least 25% of their athletic training experience hours were attained in actual practice or game coverage with one or more of the following sports: football, soccer, hockey, wrestling, basketball, gymnastics, lacrosse, volleyball and rugby
- Obtain the endorsement of a NATABOC Certified Athletic Trainer
- Successfully pass the Certification Examination administered by the National Athletic Trainers' Association Board of Certification

For more information concerning certification, contact the National Athletic Trainers' Association Board of Certification, Inc. at 3725 National Drive, Raleigh, NC 27612 (919-787-5312).

NATA Competencies

The competencies enumerated in the document, "Competencies in Athletic Training", written and distributed by the National Athletic Trainers' Association Professional Education Committee (NATAPEC), have been identified as those necessary for effective functioning as an entry-level Certified Athletic Trainer (ATC). Results of role delineation studies conducted by the National Athletic Trainers' Association Board of Certification (NATABOC) in 1982 and 1990 served as the primary source for development of these competencies by the National Athletic Trainers' Association, Inc. Copies of the most recent Role Delineation Study may be obtained by contacting the NATABOC.

The Competencies in Athletic Training serve as a guide to development of educational programs and learning experiences leading to NATA certification as an athletic trainer and is intended to assist administrators, instructional personnel, and students in identifying knowledge and skills to be mastered.

The competencies included in the document are categorized according to the five major "domains" which comprise the role of the Certified Athletic Trainer:

- Prevention of Athletic Injuries
- Recognition, Evaluation, and Immediate Care of Athletic Injuries
- Rehabilitation and Reconditioning of Athletic Injuries
- Health Care Administration
- Professional Development and Responsibility

Although not stated as such, the competencies identified within each major domain are categorized according to the following commonly accepted method of classifying behavioral objectives:

- Cognitive Domain (knowledge and intellectual skills)
- Psychomotor Domain (manipulative and motor skills)
- Affective Domain (attitudes and values)

Conversion of the competencies into appropriately stated behavioral objectives and development of criteria for acceptable student performance is left to the discretion of instructional personnel.

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The Comprehensive Manual of Taping and Wrapping Techniques

Second Edition

Kenneth E. Wright, D.A., ATC
and
William R. Whitehill, Ed. D., ATC

Chapter 1

PREPARATION OF THE ATHLETE FOR PROTECTIVE TAPING/WRAPPING

Purpose of Taping and Wrapping

The primary purpose for tape application is to provide additional support, stability, and compression for the affected body part. The purpose of elastic wraps is for support and compression. Through proper application, taping and wrapping techniques can be applied to shorten the muscles angle of pull, decrease joint range of motion, secure pads, bandages and protective devices, and to apply compression to aid in swelling reduction.

Philosophies of Elastic Tape and Elastic Wrap Application

With tape application, proper angle, direction and tension must be considered. Because elastic tape has the ability to contract and expand, this tape is commonly used in areas that need greater freedom of movement. Elastic tape also has the characteristic of conformability - it can be placed on the body part with fewer wrinkles and at greater angles. When applying elastic tape, proper tension must be applied.

Elastic wraps are primarily utilized in the application of applying either compression or support to injured anatomical structures. It is left to the discretion of the health care professional to select adhesive or elastic tape, and elastic wraps in the application of any preventive technique.

Description of Athletic Training Supplies

In this text, tape terminology used will be adhesive tape or elastic tape. The adhesive tape is traditionally marketed as non-elastic, white tape. Elastic tape provides greater freedom of mobility to the affected body part, and is marketed

as elastic tape. Both adhesive and elastic tapes are produced in a variety of widths. The terminology for elastic wrap is defined as a woven fabric that also allows for expansion and contraction, in which either compression or supportive techniques can be utilized. This product is typically produced in 1, 2, 3, 4, and 6 inch widths. In certain situations, an extra long length is more desirable. The ankle cloth wrap is non-elastic cloth that is 1-1/2 inches wide and between 72-96 inches in length. Additionally, adhesive and elastic tape are utilized to stabilize the wrap. In the preparation of some body parts, skin protection must be considered, such as BAND-AID (a registered trademark of Johnson & Johnson), with a lubricant.

Selection of Proper Supplies and Specialty Supplies

One of the most critical aspects of taping techniques is the selection of proper supplies. Your selection depends on the number and types of sports offered and frequency of injury. Purchasing supplies depend on budget, philosophy of medical staff regarding taping techniques, and occurrence of injury. Special consideration must be given to these additional supplies: benzoin (spray adherent), adhesive versus elastic tape, width of adhesive and elastic tape, and length and width of elastic wraps.

Preparation of Body Part to be Taped or Wrapped

In preparing the body for taping and wrapping application, consider these six items:

1. Removal of Hair: The athlete should shave the affected body part. This will insure a good solid foundation for the tape, will allow for easy tape removal, and will reduce skin irritation.
2. Clean the Area: After hair removal, make sure the skin is clean and moisture free.

3. **Special Considerations:** Skin protection is important. Provide special care if the skin has allergies, infections, or open and closed wounds.
4. **Spray Adherent:** Spray the affected area with an adherent to aid in the adhesive quality, and provide stability to the supportive technique.
5. **Skin Lubricants:** In areas of high friction or sensitivity, a skin lubricant such as Skin-Lube[®] with heel and lace pads will help reduce the possibility of irritation.
6. **Underwrap:** This foam wrap is used primarily in cases when the athlete is allergic to tape or it is used to hold heel and lace pads in place at high friction areas. Use of underwrap over the entire taping area can compromise the stability of the taping technique. When applying an elastic wrap, underwrap material should not be utilized.

Application and Removal of Taping and Wrapping Procedures

To tear tape, the adhesive tape is held firmly on each side of the proposed tear line. With proper tension applied on the tape, the free end is pulled away at an angle so that the force crosses the lines of the fabric of the backcloth at a sharp angle. The tear then occurs sequentially through the backcloth. The more quickly this maneuver is done, the more evenly tape edges will be torn. Some brands of elastic tape are extremely hard to tear by hand. Cut those brands with scissors to insure proper tape application and neatness.

Easy removal of adhesive and elastic tape is accomplished by using bandage scissors or a specially constructed tape cutter. A small amount of lubricant on the tip of the cutting device will

allow the instrument to slip under the tape more readily, thus allowing removal of the tape with ease. Avoiding bony prominences, move the scissors or cutter along the natural channels or in areas of greatest soft tissue cushion.

Once this has been completed, remove the tape from the skin in a constant and gradual manner. It is preferred that the tape be removed in the opposite direction from which it was applied. When pulling the tape from the skin at an angle of 180 degrees, care should be exercised to minimize removal of skin tissue and skin irritation. It is recommended that pressure be applied to the skin (pull the skin away from the tape), which will reduce the possibility of skin irritation. The daily use of a tape remover is recommended to help keep the skin clean and to prevent skin irritations and/or infections. Tape remover and/or alcohol will aid in the removal of tape mass and adherent from the skin.

Sport Specific Rules on Taping and Wrapping

If you apply supportive techniques to an athlete, you should be aware of specific rules governing tape application in that particular sport. Your application must fall within the guidelines established for each sport by appropriate governing bodies.

Braces and Special Devices

This text does not address the issue of protective devices. This topic would warrant an entirely separate manual. The use of protective devices is beneficial, if they are intelligently selected, used in the appropriate setting, correctly fitted, properly applied, and used within the rules and guidelines of the specific sport. Listed below are three common specialty supplies utilized in special pad techniques.

1. **Foam:** Whether adhesive or non-adhesive, foam can be used in conjunction with various taping/wrapping procedures to increase the benefi-

cial nature of the technique. These items should be kept in mind when applying foam: the proper size, thickness, shape, and foam composition need to be determined prior to the application of the tape or wrap.

2. Thermoplastic: This rigid material could allow the injured athlete to return to practice and/or competition with an increased awareness that the injury will be protected from further harm. Because of the hard composition of this product, thermoplastic material may be restricted from some sports, allowable only on a certain body part or require padding according to the guidelines of each sport.

3. Felt: This product should be applied with many of the same considerations as with foam rubber products. Factors that should be considered in the construction and application of a felt pad are size, thickness, and use of either adhesive or non-adhesive felt.

In the construction of a special pad, the following criteria should be considered.

1. Does the pad meet specific rules and guidelines of the sport? If NO, then do not use the pad.
2. Does the pad perform the function for which it was designed? If NO, then do not use the pad.
3. Will the pad contribute to further injury to the area or to an adjacent area? If YES, then do not use the pad.
4. Will the pad alter the function or void the warranty of a manufactured piece of equipment (i.e., helmet, shoulder pads)? If YES, then do not use the pad.

These, as well as other common sense questions should routinely be asked and then

answered by the health care professional before the construction of any specialty pad.

1. Supportive Techniques: In special situations, additional support is utilized. As stated in the manual, adjunct taping/wrapping techniques could provide additional support and/or stability to the affected body part. When applying these procedures, special consideration should be given to: purpose, general condition(s) procedure used for, correct anatomical position, and proper selection of supplies.

2. Immobilization: There are instances when a joint or body part can be immobilized and the athlete can still continue to practice and participate in competition. In all cases, consultation with, and approval by, the physician is essential. Furthermore, the sports medicine representative must be sure that the immobilization technique is within the rules and guidelines for that particular sport.

Principles of Physical Rehabilitation

Supportive techniques along with a rehabilitation program enhance an athlete's return to activity. Please note that taping and wrapping procedures are NOT a substitute for proper injury rehabilitation. You should follow the standard operating procedures regarding injury rehabilitation and supportive taping and wrapping techniques, as outlined by a physician. It is imperative that you as the health care professional develop a thorough knowledge of taping application fundamentals.

Precautions

Before applying any technique, the athlete's skin temperature should be normal. To reduce chance of skin irritation, after any therapeutic treatment, allow adequate time for the skin to return to its normal temperature. When applying support techniques, the safety of the athlete

should be your priority. Improper tape application can cause further injury, so use caution. With all injured athletes, consultation with a physician is

recommended. Tape application should not be used to allow participation with any disabling conditions.

Common Terminology (Joint Motion)

Abduction - the act of drawing a body segment away from the median line of the body.

Adduction - the act of drawing a body segment toward the median line of the body.

Eversion - the act of rotating the pronated foot externally on the ankle.

Inversion - the act of rotating the pronated foot internally on the ankle.

Extension - the act of drawing a body segment toward a straight line position with its proximally conjoined body segment.

Flexion - the act of drawing a body segment away from a straight line with its proximally conjoined body segment, or toward that joint's smallest acute angle.

Hyperextension - in excess of normal extension.
Hyperflexion - in excess of normal flexion.

Pronation - the act of rotating the hand or foot internally on its long axis.

Supination - the act of rotating a hand or foot externally on its long axis.

Common Terminology (Anatomical Positions)

Anterior - the front of the body or body part.

Collateral - from lateral meaning side, parallel.

Diarthrodial joint - a ball and socket joint.

Distal - farthest from a center, from the midline, or from the trunk. Farthest from a point of reference (opposite of proximal).

Dorsal - upper surface.

Dorsum - the back of a body part.

Inferior - toward the bottom of the body or body part.

Insertion - muscle attachment to a bone that moves.

Lateral - away from the middle of the body. Pertains to the side (in relationship of position from the midline of the body).

Medial - toward the midline of the body.

Origin - the fixed end or attachment of a muscle.

Plantar - ventral aspect of the foot (sole of the foot).

Posterior - the back of the body or body part.

Prone - face-down, horizontal position of the body.

Proximal - closest to the midline or center of the trunk. Nearest to the point of attachment, origin, or other point of reference.

Superior - toward the top of the body or body part.

Supine - lying on the back, face upwards, opposed to prone.

Valgus - position of a body part that is bent outward.

Varus - position of a body part that is bent inward.

Ventral - bottom surface.

Tips from the Field

- Know what body part and injury you are providing support and/or compression.
- Cover sensitive body parts (nail/nipple) with a band-aid.
- When applying a technique, learn to tape from a stationary position.
- Position the body part to be taped at your elbow height.
- When practicing, start with small length and width elastic wraps so you can learn common techniques like figure of eight, joint spica, etc. Once you have become proficient with wraps, then utilize adhesive and elastic tape.
- Apply proper tension to the tape/wrap so that circulation will not be restricted.
- Follow the tape/wrap with your hand to smooth out all wrinkles.
- Overlap tape/wrap 1/2 its width to avoid spaces that could cause cuts and friction burns.
- When applying a compression wrap, always start distally and wrap proximally (toward the heart).
- Start angle of tape high so the tape angles will conform better.
- Always angle the tape in order for the tape ends to meet at the anchor strips. If you do not succeed retry angle at sharper degree.
- When applying closure strips, it is recommended to always apply closure strips proximal to distal.
- When applying tape to the foot or ankle, pull the tape lateral to avoid excessive tension/compression on the 5th metatarsal.
- PRACTICE PRACTICE PRACTICE!

Chapter 2

WRAPPING TECHNIQUES FOR SUPPORT AND COMPRESSION

It is imperative that the health care professional develop a thorough knowledge regarding the fundamentals of the application of taping/wrapping procedures. It is recommended that Chapter 1 be reviewed before the application of any technique.

This text discusses the purpose of wrapping for support and compression, describes athletic training supplies you'll need, and shows how to prepare a body part for wrapping. Then, specific

wrapping techniques for the ankle, knee, thigh, hip, shoulder, elbow, and wrist and hand are outlined. Each technique describes basic anatomy affected, supplies needed, pre-taping procedures and taping procedures.

Assessing an Injury

Before one applies an elastic wrap, a proper injury evaluation should be completed by a physician. Following injury evaluation, a qualified health care professional can then make recommendations concerning application of protective techniques. This helps insure that proper wrapping techniques are applied for support and compression. Also, it is imperative that the health care professional develop a thorough knowledge of wrapping and taping application fundamentals.

Common Terminology

Compression - the act of applying pressure to an organ. For example: applying a wrap, beginning at the bottom of an injury and wrapping towards the heart.

Diagonally - a slanted or oblique direction.

Diamond Shape - an object that is in the shape of two equilateral triangles placed base to base.

Extension Wrap - a wrap used to assist in the extension of specific joint (upward and outward pull).

External Rotation - turning outwardly or away from the midline of the body.

Internal Rotation - the turning of a limb toward the midline of the body.

Figure of Eight - the bandaging of a joint where the initial turn circles the one part of the joint and the second turn circles the adjoining part of the joint to form a figure of eight.

Flexion Wrap - a wrap used to assist in the flexion of that joint (upward and inward pull).

Joint Range of Motion - the maximum range of movement of a joint measured in degrees of a circle.

Muscle Contracted - the shortening of the muscle.

Pad Support - a pad placed in a certain area to sustain, hold up, or maintain a desired position.

P.R.I.C.E.S. - Protection, Rest, Ice, Compression, Elevation, and Support.

Shorten the Angle of Pull - decreasing the range of motion of a joint.

Spica Wrap - a figure eight (8) bandage that generally overlaps the previous to form V like designs; used to give support, apply pressure or hold a dressing.

Spiral - applying a bandage around a limb that ascends the body part overlapping the previous bandage.

Swelling - an increase in size of an area due to an increase in fluid.

Support - to sustain, hold up or maintain a desired position.

X Pattern - the crossing of two pieces of tape in the shape of an X.

Purpose of Elastic Wraps

The primary purpose for the application of an elastic wrap is to provide additional support and compression for the affected body part. Through the proper application, wrapping techniques can be applied to shorten the muscles angle of pull, decrease joint range of motion, secure pads, bandages, protective devices, and apply compression to aid in swelling reduction.

Purpose and Application of Elastic Wraps for Support

During physical activity, supportive wraps are utilized to aid in muscle function and support and to reduce excessive range of motion. These applications are usually used for short periods, typically for competition or practice. Common terminology for these wraps are spica, figure of eight, and pad support. Spica wraps are traditionally employed at the hip and shoulder joints. Figure of eight wraps are placed over ankle, knee, elbow, and wrist and hand joints. Supportive wraps aid in securing pads after the proper placement of felt, foam rubber, and protective devices.

Purpose and Application of Elastic Wraps for Compression

Compression wraps are utilized in initial injury treatment protocol: Protection, Rest, Ice, Compression, Elevation, and Support (P.R.I.C.E.S.). In applying a compression wrap, use a spiral pattern, and, beginning distal to the injury, cross the injured joint, and finish proximal to the affected area. This, combined with elevation, assists in moving fluids out of the injured area. In certain situations, it is preferred that the wrap start below the next joint. As with any wrapping procedure, removal and re-application should take place every four hours.

Selection of Athletic Training Supplies and Specialty Items

The terminology for elastic wrap is defined as a woven fabric that also allows for expansion and contraction, in which either compression or supportive techniques can be utilized. This product is typically produced in 1, 2, 3, 4, and 6 inch widths. In certain situations, an extra long length is more desirable. The ankle cloth wrap is non-elastic cloth that is 1-1/2 inches wide and between 72-96 inches in length. Additionally, adhesive and elastic tape is utilized to stabilize the wrap. In the preparation of some body parts, skin protection must be considered, such as BAND-AID (a registered trademark of Johnson & Johnson), with a lubricant.

Depending on the number and types of sports offered and frequency of injury, a variety of supplies should be available. Purchasing supplies depends on your budget, your medical staff's philosophy regarding wrapping techniques, and occurrence of injury. Also, give special consideration to benzoin (spray adherent), and length and width of elastic wraps.

Sports Specific Rules on Wrapping

If you apply supportive techniques to an athlete, you should be aware of specific rules governing supportive wrap application in that particular sport. Your application must fall within the guidelines established for each sport by appropriate governing bodies.

Preparation of Body Part for Wrapping

In preparing the body for elastic wrap application, consider these five items:

1. Removal of Hair: Even though it is optional, it is recommended that the athlete shave the affected body part. This will insure a good solid foundation for the wrap, and will reduce skin irritation.

2. Clean the Area: After hair removal, make sure the skin is clean and moisture free.
3. Special Considerations: Skin protection is important. Provide special care if the skin has allergies, infections, or open and closed wounds.
4. Spray Adherent: Spray the affected area with an adherent to aid the application's adhesive quality, thus providing stability.
5. Skin Lubricants: In areas of high friction or sensitivity, a lubricant, such as a heel and lace pad, will help reduce the possibility of irritation.

Proper Body Positioning

Before beginning any wrapping procedure, ask the athlete to assume an anatomically correct and comfortable position. Position yourself in a good postural alignment to minimize strain and fatigue.

The wrapping techniques presented in this text are the fundamental procedures. Variations can be achieved by adapting these techniques to a particular injury situation. Always give special consideration to:

- Purpose of the wrapping procedure
- General condition of the injury
- Correct anatomical position
- Proper supply selection.

A strong knowledge of anatomy is essential. To increase your knowledge in anatomy, please consult the texts listed at the end in Appendix B.

WRAPPING TECHNIQUES: Supportive

During physical activity, supportive wraps are utilized to aid in muscle function and support, and to reduce excessive range of motion. These applications are typically used in competition or practice. Spica wraps are traditionally employed at the hip and shoulder joints. Figure of eight wraps are placed over ankle, knee, elbow, wrist and hand joints.

ANKLE CLOTH WRAP

Purpose: To provide support to the ankle joint.

General Condition Procedure Used For: Ankle Sprains.

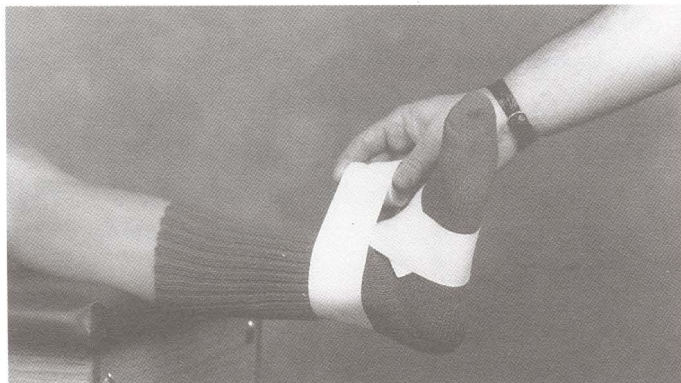
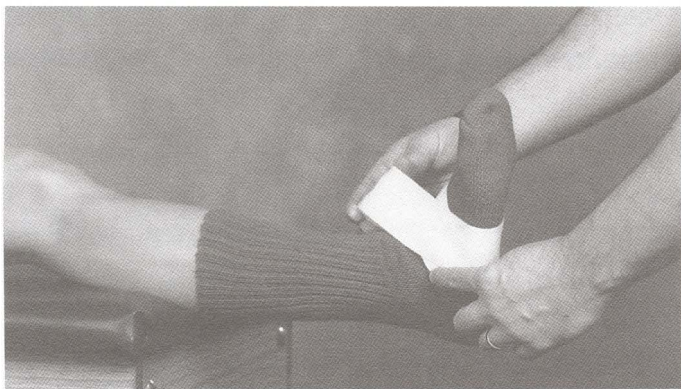
Anatomical Structure: Ankle joint.

Anatomical Position: Ankle in neutral position (90 degrees).

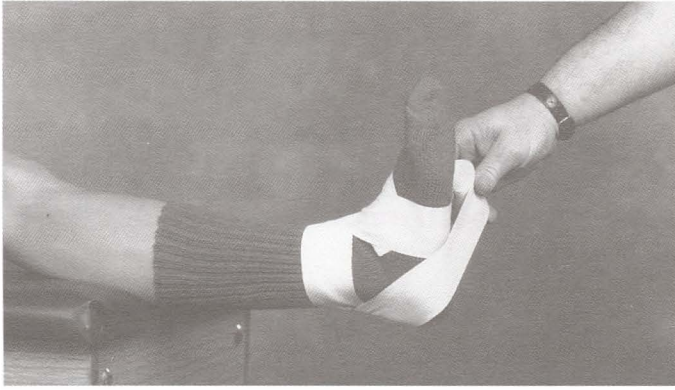
Supplies needed: 1-1/2" cloth wrap, 72-96 inches, and 1-1/2" adhesive tape.

Pre-Wrapping Procedure: With the ankle in neutral position, apply the athletic sock. Instruct the athlete to contract the muscles of the lower leg.

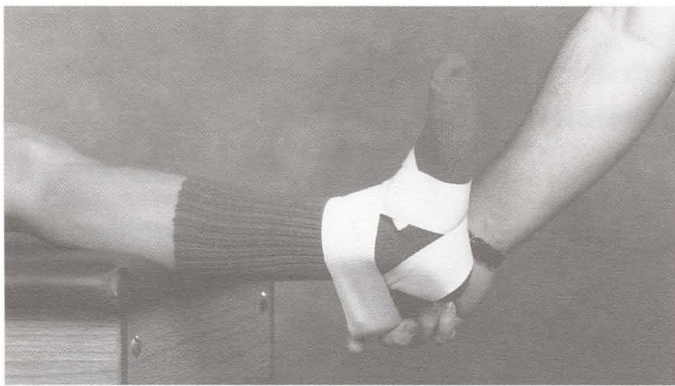
Wrapping Procedures: A continuous wrap is used in this procedure and consists of a figure of eight, medial heel lock, lateral heel lock, finishing with a figure of eight.



1. Figure of eight. Starting on the dorsal aspect of the foot, move medially down the inside of the foot, across the plantar portion, up the outside of the foot to the starting point. Continuation of the wrap will proceed medially around the lower leg, crossing the achilles tendon, returning to the origin of this figure of eight technique.



2. Apply the medial heel lock. This wrap continues across the medial malleolus, crossing the achilles tendon, around the lateral aspect of the heel, angling underneath the foot and moving up to the foot's dorsum.



3. The lateral heel lock wrap continues across the lateral malleolus, crosses the achilles tendon, around the medial aspect of the heel, angles underneath the foot and moves up to the foot's dorsum.



4. Repeat Step 1 (figure of eight wrap)





5. This procedure can be reinforced by applying 1-1/2" adhesive tape to construct extra figures of eight and heel locks over the cloth wrap.

KNEE JOINT WRAP

Purpose: To provide support to the knee joint.

General Condition Procedure Used For: Sprains to the knee joint.

Anatomical Structure: Knee joint.

Anatomical Position: Knee joint placed in slight flexion.

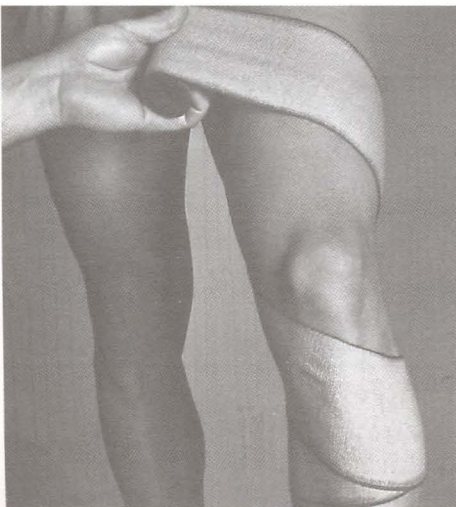
Supplies needed: 4" elastic wrap, and 1-1/2" adhesive tape.

Pre-Wrapping Procedure: The athlete should stand with the affected knee in slight flexion. Instruct the athlete to contract the muscles around the knee joint.

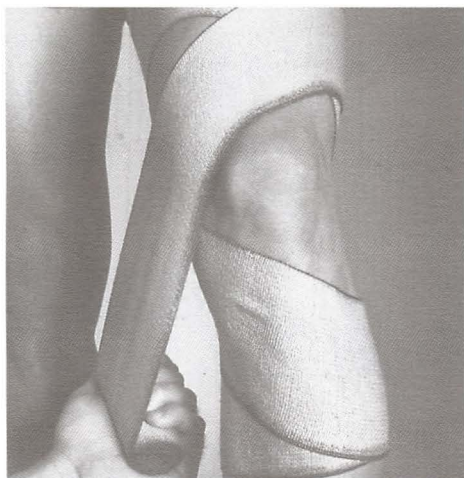
Wrapping Procedures:



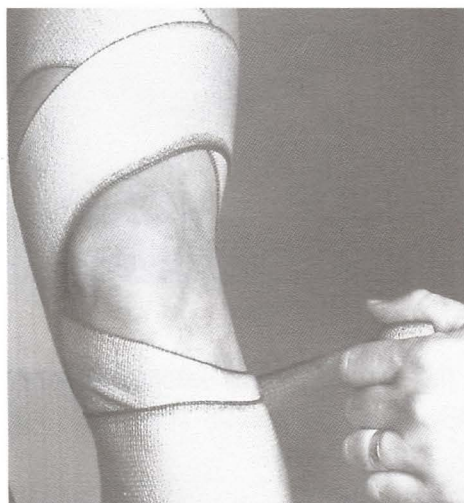
1. Begin the wrap on the lateral/posterior aspect of the lower leg. Encircle the lower leg, moving medially to laterally.



2. Angle the wrap below the patella and cross the medial joint line. Cover the thigh's posterior and lateral aspect.



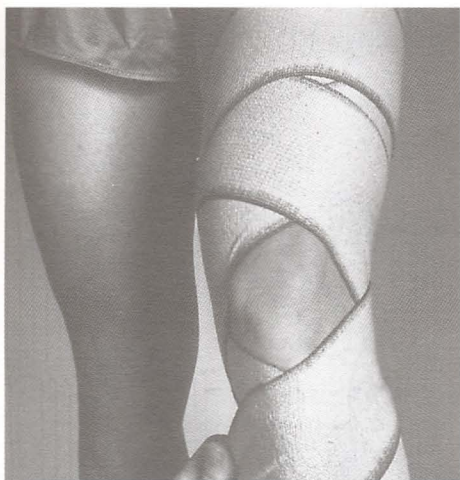
3. Encircle the thigh, moving medially to laterally. Angle the wrap downward, staying above the patella, and crossing the medial joint line.



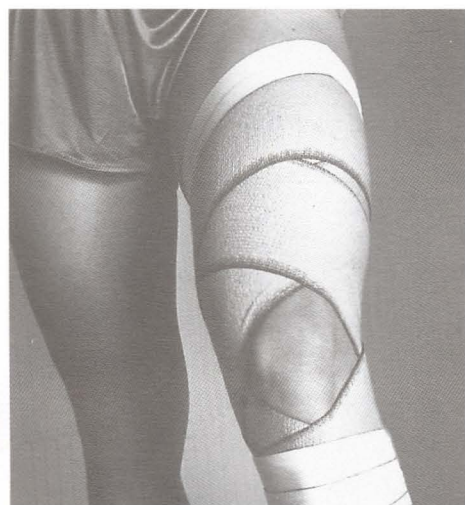
4. Cross the popliteal space and encircle the lower leg.



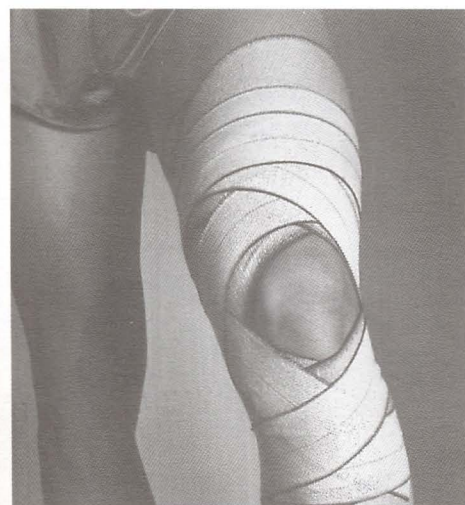
5. Proceed with the wrap, crossing the lateral joint line and angling above the patella.



6. Encircle the thigh and on the posterior aspect, angle across the knee's lateral joint line, staying below the patella. This configuration should resemble a diamond shape around the patella and cover from mid-thigh to the gastrocnemius belly.



7. Secure this wrap with 1-1/2" adhesive tape, applied at the wrap's loose end.



Adjunct Taping Procedures:

KNEE WRAP

This adjunct taping procedure can be used in conjunction with the basic technique presented.

Technique A: In conjunction with the elastic wrap, you can use 2" or wider elastic tape in a continuous method.

HAMSTRINGS WRAP

Purpose: To provide support to the hamstring muscle group.

General Condition Procedure Used For: Strains to hamstring muscles.

Anatomical Structure: Posterior aspect of the thigh.

Anatomical Position: In standing position, affected extremity placed in hip extension.

Supplies needed: 1-1/2" adhesive tape, and 6" elastic wrap.

Pre-Wrapping Procedure: The athlete should stand with the affected extremity placed in hip extension and instruct the athlete to contract the hamstring muscles.

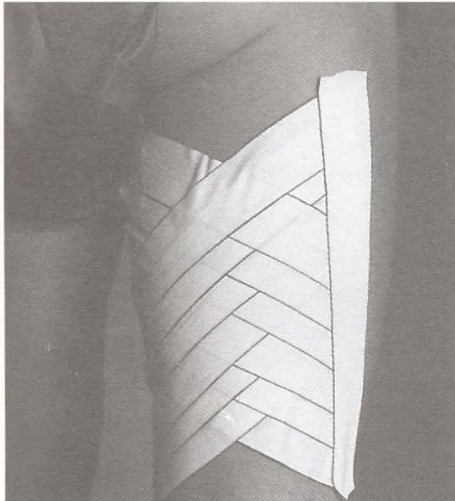
Wrapping Procedures:



-
1. Begin the wrap at the thigh's proximal end. Angle diagonally to the distal aspect of the hamstrings. At this point, begin an upward spiral supportive procedure with the wrap. Overlap each layer by one-half its width, ending at the thigh's proximal end.
-



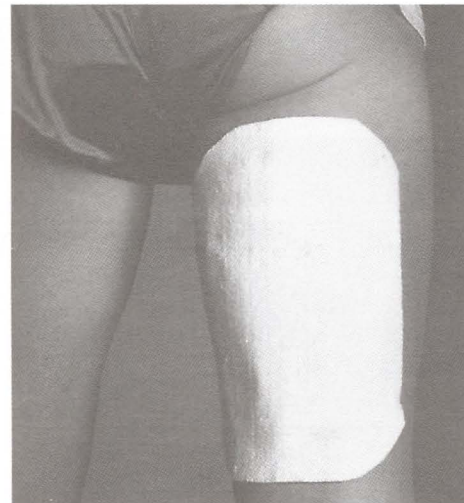
2. Secure the wrap in place by applying an anchor strip of 1-1/2" adhesive tape.



Adjunct Taping Procedures:
HAMSTRING WRAP

These adjunct taping procedures can be used in conjunction with the basic technique presented.

Technique A: The "X" pattern technique. Apply the wrap over this technique for additional support.



Technique B: Felt Pad: Apply a 3" x 5" (or larger) felt pad over the affected area. Use 1/2" felt. Apply the wrap over this technique for additional support and compression.



Technique C: Hip Extension Wrap: Using a 6" extra long wrap, apply a hip spica wrap encircling the complete thigh and waist region of the body. In conjunction with the elastic wrap, you can use 2" or wider elastic tape in a continuous method.

QUADRICEPS WRAP

Purpose: To provide support for the quadriceps muscle group.

General Condition Procedure Used For: Strain and contusions to the quadriceps muscles.

Anatomical Structure: Thigh.

Anatomical Position: Standing with hip and knee joint slightly flexed.

Supplies Needed: 1-1/2" adhesive tape, and 6" elastic wrap.

Pre-Wrapping Procedures: The athlete should contract the quadriceps muscle group.

Wrapping Procedures:



1. Begin the wrap at the thigh's proximal end. Angle diagonally to the distal aspect of the quadriceps. At this point, begin an upward spiral supportive procedure with the wrap. Overlap each layer by one-half its width, ending at the thigh's proximal end.



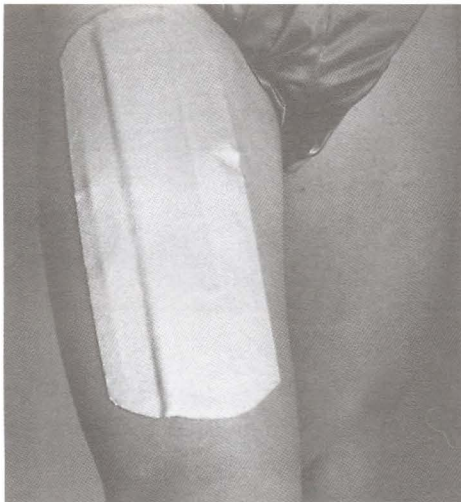
2. Secure the wrap in place by applying an anchor strip of 1-1/2" adhesive tape.



Adjunct Taping Procedures:
QUADRICEPS WRAP

These adjunct taping procedures can be used in conjunction with the basic technique presented.

Technique A: The "X" pattern technique. Apply the wrap over this technique for additional support.



Technique B: Adhesive felt: Apply adhesive felt over the affected area of the anterior thigh.



Technique C: Felt Pad: Apply a 3" x 5" (or larger) felt pad over the affected area. Use 1/2" felt. Apply the wrap over this technique for additional support and compression.



Technique D: Thigh/Hip Flexion Wrap:
Under certain situations the application of this hip flexor wrap is preferred. This wrap will encircle the complete thigh and waist region of the body.

HIP FLEXOR WRAP

Purpose: To provide support to the hip flexor.

General Condition Procedure Used for : Strain to the hip flexors.

Anatomical Structure: Hip and thigh.

Anatomical Position: Ask the athlete to stand with the affected extremity placed in hip flexion and the foot in slight, internal rotation. A continuous strip of elastic wrap is applied in a hip spica method, abducting the thigh.

Supplies Needed: 6" extra long elastic wrap, and 1-1/2" adhesive tape.

Pre-Wrapping Procedure: Instruct the athlete to contract the muscles around the hip joint.

Wrapping Procedures:



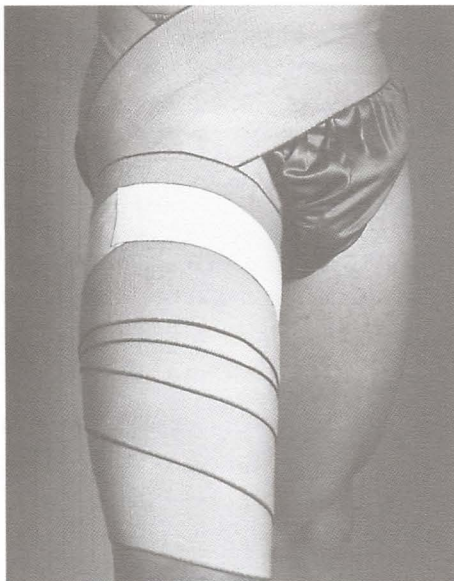
1. Begin the wrap at the proximal end of the thigh. From the anterior surface, angle diagonally to the distal lateral aspect of the quadriceps. Above the knee, begin an upward spiral supportive procedure with the wrap. Overlap each layer by one-half its width.



2. At the proximal end of the thigh, continue the wrap around the waist, pulling to the lateral and posterior aspect.



3. Once the waist has been encircled, continue the wrap around the thigh two to three times.



4. At this point, continue the wrap around the waist. This upward and outward pull should assist in hip flexion and limit hip extension. End the wrap on the thigh. Secure the wrap in place by applying an anchor strip of 1-1/2" adhesive tape.



Adjunct Taping Procedure:
HIP FLEXOR WRAP

This adjunct taping procedure can be used in conjunction with the basic technique presented.

Technique A: Using 3" elastic tape, apply the tape over the wrap following the same pattern.

HIP ADDUCTOR WRAP

Purpose: To provide support to the hip adductors.

General Condition Procedure Used For: Strain to the hip adductors.

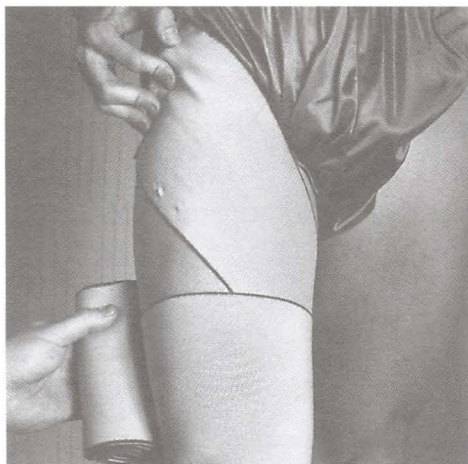
Anatomical Structure: Hip and thigh.

Anatomical Position: The athlete should stand with the affected extremity placed in hip flexion and the foot in slight internal rotation. A continuous strip of elastic wrap is applied in a hip spica method, adducting the thigh.

Supplies Needed: 6" extra long elastic wrap, and 1-1/2" adhesive tape.

Pre-Wrapping Procedure: Instruct the athlete to contract the muscles around the hip joint.

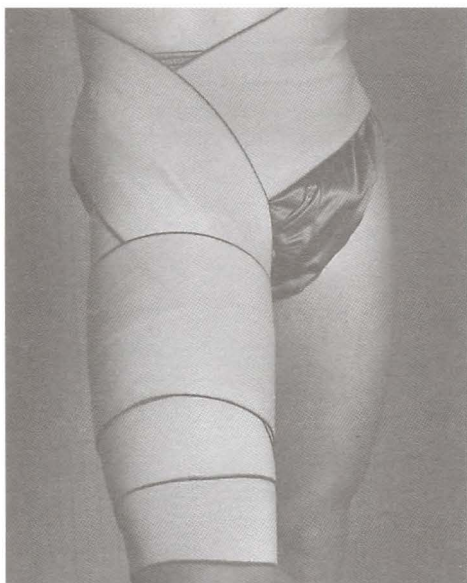
Wrapping Procedures:



1. Begin the wrap at the proximal end of the thigh. From the anterior surface, angle diagonally to the distal medial aspect of the quadriceps. Above the knee, begin an upward spiral supportive procedure with the wrap. Overlap each layer by one-half its width.



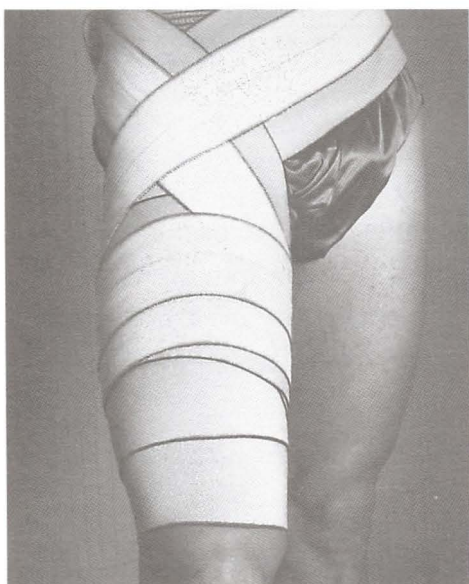
2. At the proximal end of the thigh, continue the wrap around the waist, pull across the abdomen, to the lateral aspect, and then to the posterior aspect. This upward and anterior pull should assist in hip adduction and limit hip abduction.



3. Once the waist has been encircled, continue the wrap downward and around the quadriceps muscle group two to three times.



4. At this point, pull the wrap around the waist, crossing the abdomen, lateral, and posterior aspects. End the wrap on the thigh. Secure the wrap in place by applying an anchor strip of 1-1/2" adhesive tape.



Adjunct Taping Procedure:
HIP ADDUCTOR WRAP

This adjunct taping procedure can be used in conjunction with the basic technique presented.

Technique A: Using 3" elastic tape, apply the tape over the wrap following the same pattern.

GLENOHUMERAL JOINT WRAP

Purpose: To provide support to the glenohumeral joint of the shoulder.

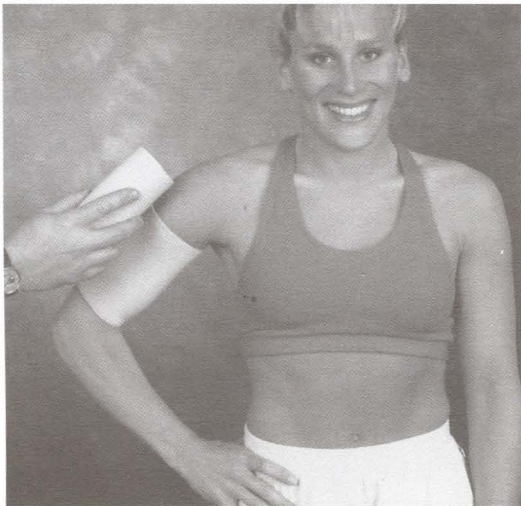
Anatomical Structure: Glenohumeral joint.

Anatomical position: The athlete should assume this position: Standing with shoulder abducted, elbow flexed, biceps muscle contracted, and hand on low back.

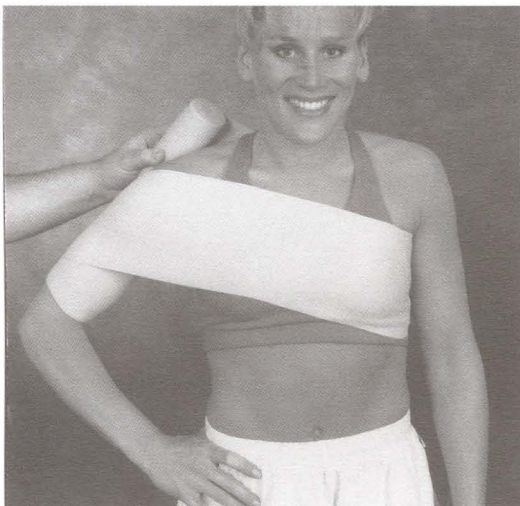
Supplies needed: 6" extra long elastic wrap, and 2" elastic tape.

Pre-Wrapping Procedure: Instruct the athlete to breathe deeply, expanding the chest. Then, you may begin your wrap.

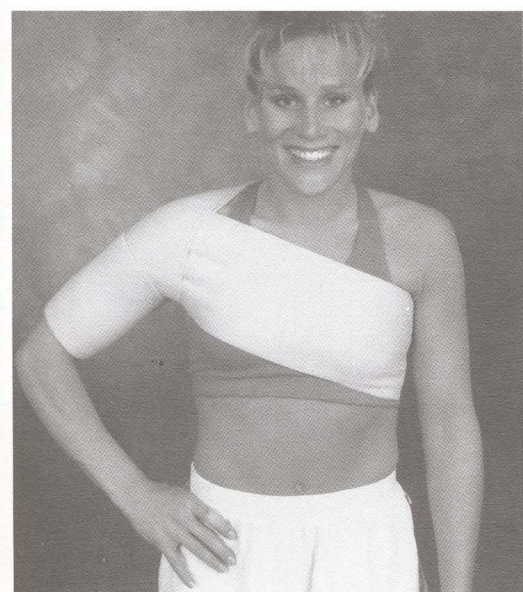
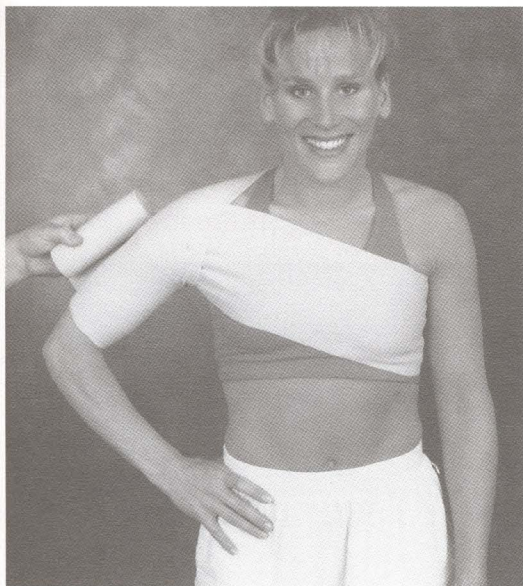
Wrapping Procedures:



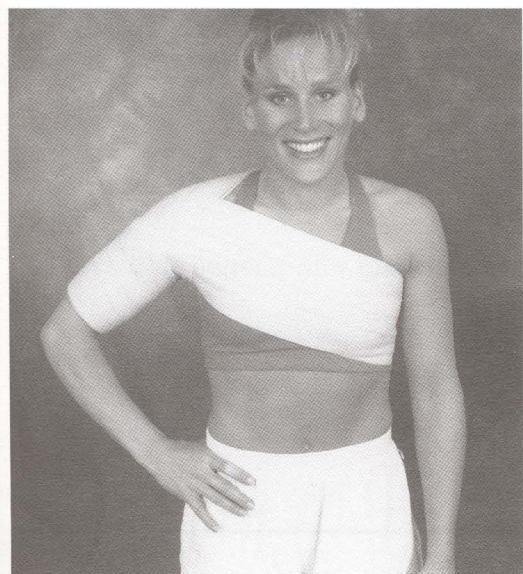
1. A continuous strip of 6" elastic wrap is applied in a shoulder spica method. This supportive technique should restrict abduction and external rotation of the glenohumeral joint. Begin on the distal aspect of the biceps muscle of the affected arm, move anteriorly, and encircle the arm.



2. Continue the wrap across the anterior aspect of the chest, under the opposite arm, across the posterior aspect of the torso and encircle the distal aspect of the upper arm.



3. Repeat this procedure a second time.



4. Secure the wrap by using a continuous strip of elastic tape in the same pattern as the wrap. Anchor the wrap with 2" elastic tape following the same pattern as the wrap.

WRAPPING TECHNIQUES: Compression

Compression wraps are utilized in initial injury treatment protocol: Protection, Rest, Ice, Compression, Elevation, and Support (**P.R.I.C.E.S.**). In applying a compression wrap, use a spiral pattern, and, beginning distal to the injury, wrap toward the heart.

Protection

Rest

Ice

Compression

Elevation

Support

Ankle Compression Wrap

Supplies needed: 4" elastic wrap, and 1-1/2" adhesive tape.

Wrapping Procedure:



1. Begin the 4" elastic wrap at the distal part of the phalanges, spiral the wrap around the foot and ankle and on the distal aspect of the lower leg.



2. Secure the wrap with a small strip of 1-1/2" adhesive tape.

Knee Compression Wrap

Supplies needed: 6" extra long elastic wrap, and 1-1/2" adhesive tape.

Wrapping Procedure:



1. Begin the 6" elastic wrap around the lower leg, spiral around the leg and knee, and above the knee.

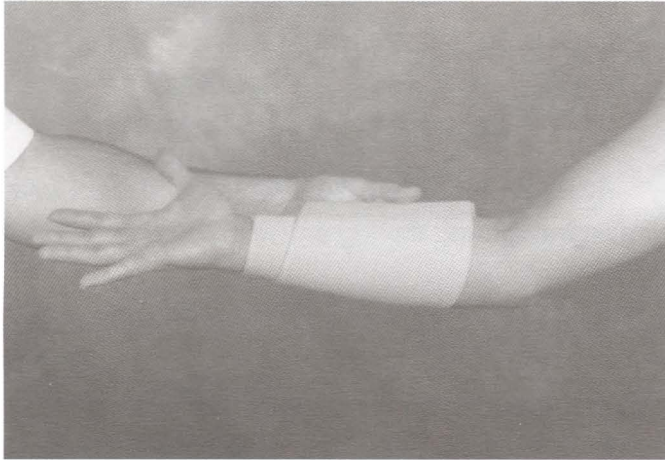


2. Secure the wrap with a small strip of 1-1/2" adhesive tape.

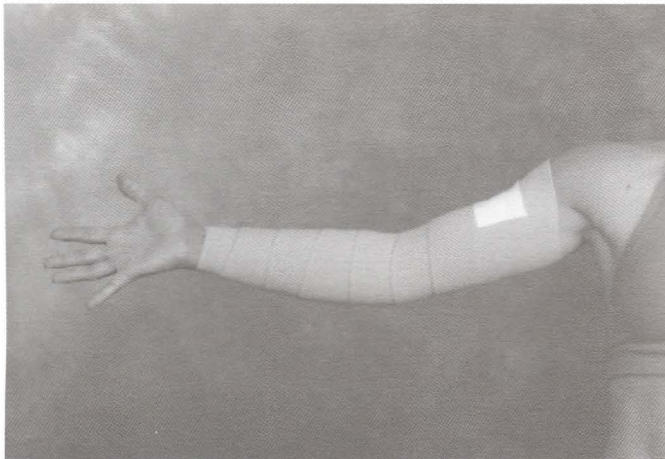
Elbow Compression Wrap

Supplies needed: 6" elastic wrap, and 1-1/2" adhesive tape.

Wrapping Procedures:



1. Begin the 6" elastic wrap at the wrist, spiral the wrap around the forearm and above the elbow joint.

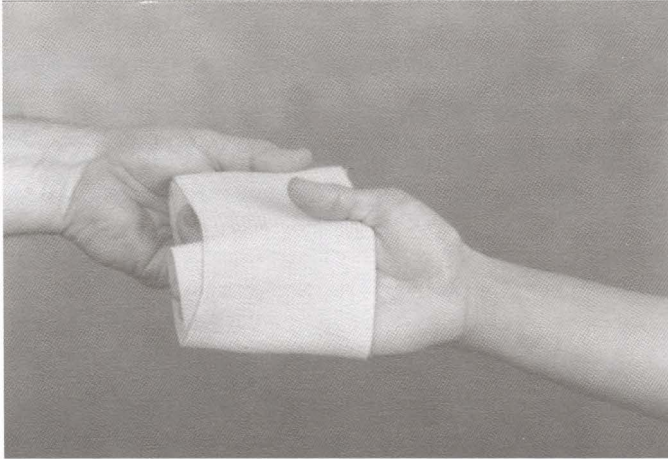


2. Secure the wrap with a small strip of 1-1/2" adhesive tape.

Wrist/Hand Compression Wrap

Supplies needed: 4" elastic wrap, and 1-1/2" adhesive tape.

Wrapping Procedures:



1. Begin the 4" elastic wrap at the finger tips, spiral around the hand and above the wrist.



2. Secure the wrap with a small strip of 1-1/2" adhesive tape.

Chapter 3

TAPING TECHNIQUES FOR THE ANKLE, FOOT AND LOWER LEG

It is imperative that the health care professional develop a thorough knowledge regarding the fundamentals of the application of taping/wrapping procedures. It is recommended that Chapter 1 be reviewed before the application of any technique.

Assessing an Injury

Before applying the first piece of tape, a proper injury evaluation should be completed by a physician. Following injury evaluation, a qualified health care professional can then make recommendations concerning proper taping techniques. This helps insure that proper taping techniques are applied for support and stabilization. Also, it is imperative that the health care professional develop a thorough knowledge of taping application fundamentals.

Anatomical Graphics

The anatomy of the ankle, foot, and lower leg will consist of all structures from the knee to the phalanges (toes). A brief overview of the bones and ligaments will be followed by a similar section

on the muscles and tendons. Please refer to the anatomical graphics on pages 3-2 and 3-3.

Foot, Ankle, and Lower Leg Anatomy - Bones

- Phalanges
- Metatarsals
- Tarsals
- Tibia
- Fibula

Foot, Ankle, and Lower Leg Anatomy - Ligaments

- Plantar calcaneonavicular ligament
- Posterior talocalcaneal ligament
- Calcaneofibular ligament
- Lateral talocalcaneal ligament
- Anterior talofibular ligament
- Posterior talofibular ligament
- Deltoid ligament

Foot, Ankle, and Lower Leg Anatomy - Muscles

- Extensor digitorum longus
- Flexor digitorum longus
- Extensor hallucis longus
- Flexor hallucis longus
- Abductor and adductor hallucis
- Peroneal brevis
- Peroneal longus
- Peroneal tertius
- Tibialis anterior
- Tibialis posterior
- Gastrocnemius
- Soleus

Foot, Ankle, and Lower Leg Anatomy - Joints

- Interphalangeal joints
- Metatarsophalangeal joints
- Intermetatarsal joints
- Tarsometatarsal joints
- Intertarsal joints
- Ankle joint

Common Terminology

Contusion - bruise.

Dorsal - upper surface (i.e. top of foot).

Dorsiflexion - the act of drawing the toe or foot toward the dorsal aspect of the proximally conjoined body segment.

Eversion - turning the sole of the foot outward.

Fascia - fibrous membrane that covers, supports, and separates muscles.

Fasciitis - inflammation of fascia.

Inversion - turning the sole of the foot inward.

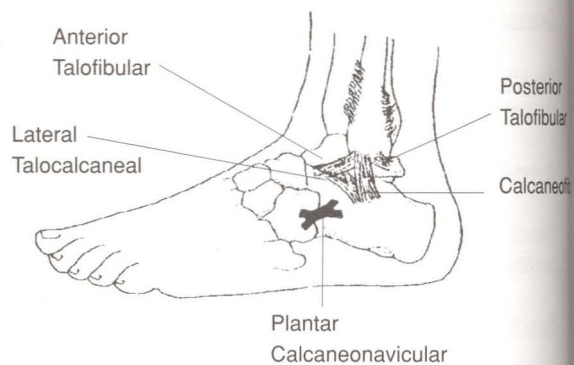
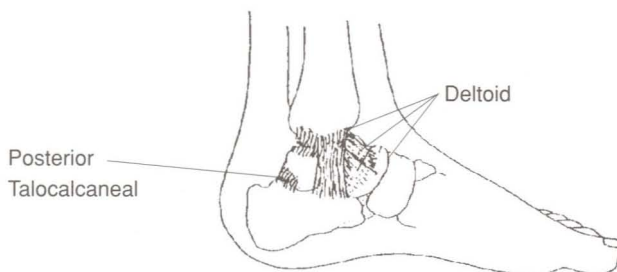
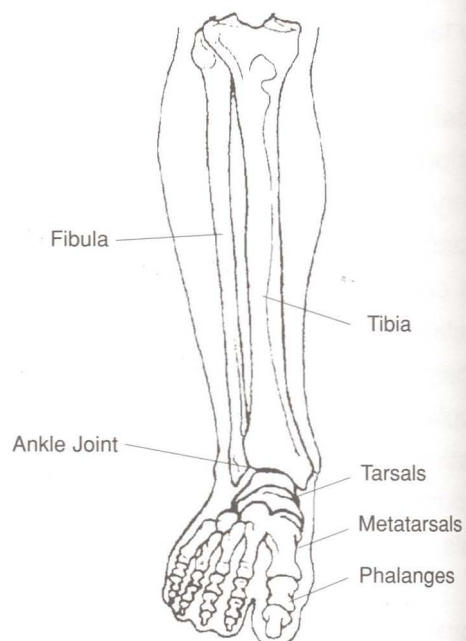
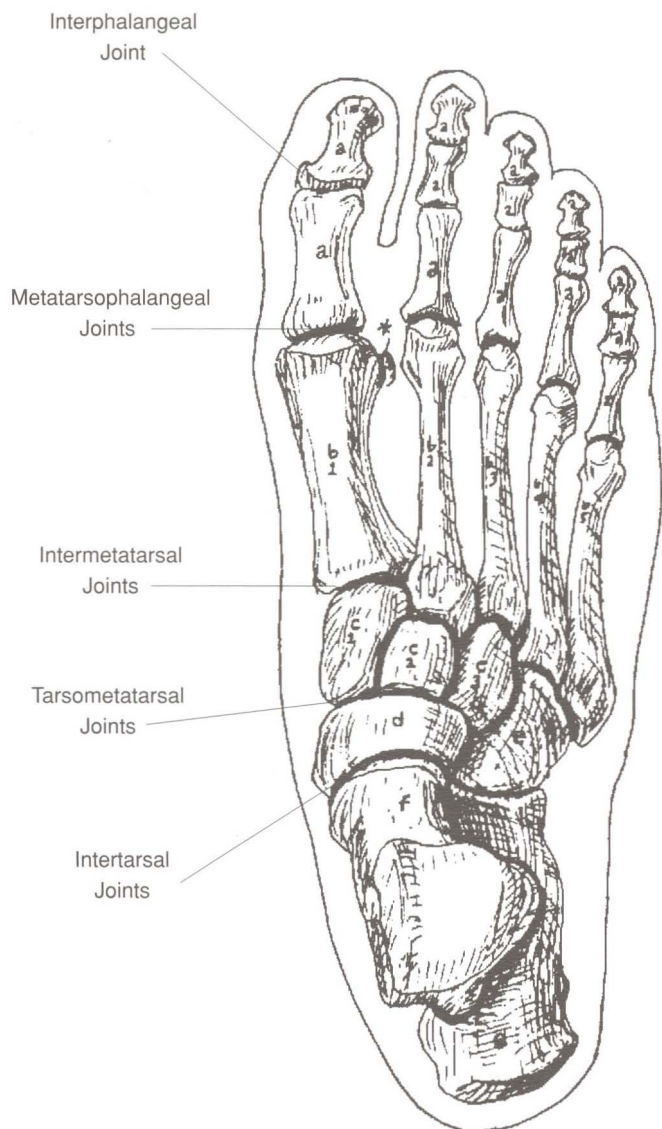
Plantar - ventral aspect of the foot (sole of the foot).

Plantar flexion - the act of drawing the toe or foot toward the plantar aspect of the proximally conjoined body segment.

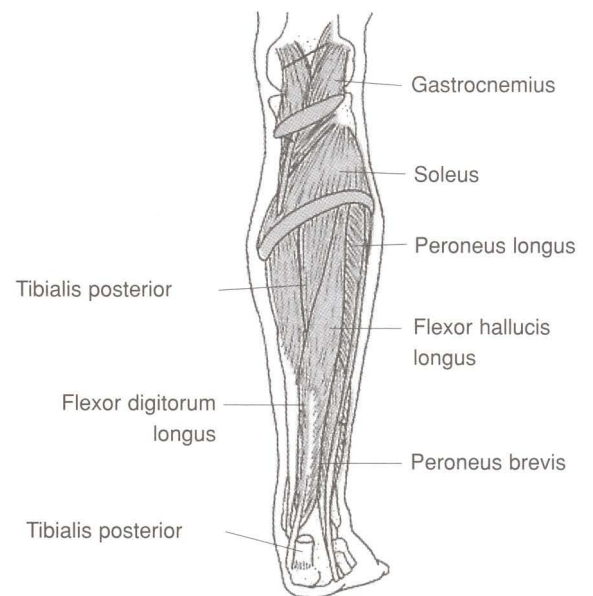
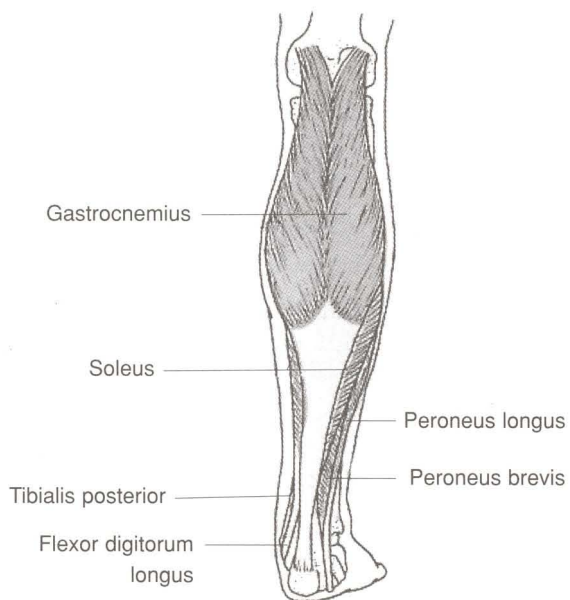
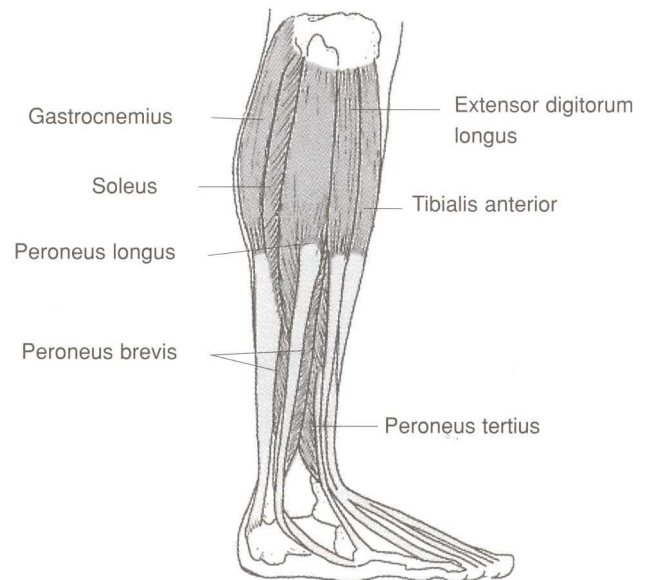
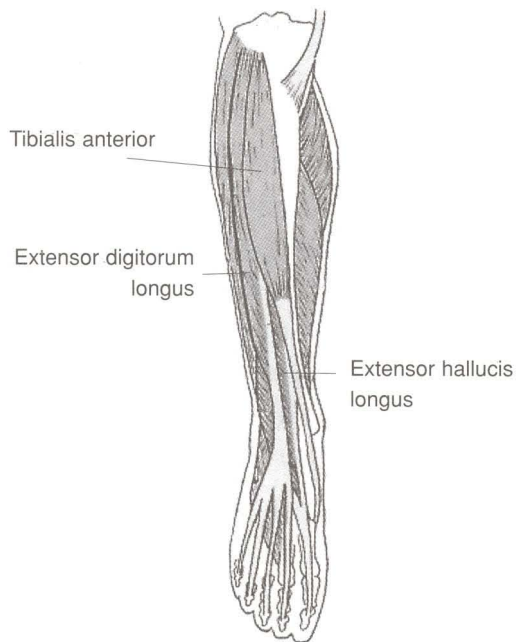
Popliteal space - area behind the knee joint.

Ventral - bottom surface (opposite of dorsal).

ANATOMICAL GRAPHICS



ANATOMICAL GRAPHICS



Musculoskeletal Disorders

The following is a list of common musculoskeletal disorders, for which taping/wrapping techniques can be applied. Consult with either *Tabers Cyclopedic Medical Dictionary* or *Signs and Symptoms of Athletic Injuries* for an accurate definition of these terms.

Foot - Ankle - Lower Leg

- Ankle Sprain
- Apophysitis Calcaneus
- Arch Sprain
- Bunion (Hallux Valgus)
- Bunionette
- Bursitis
- Corn
- Great Toe Sprain
- Hallux Rigidus
- Hallux Varus
- Hammer Toe
- Heel Spur
- Interdigital Neuroma
- Morton's Syndrome
- Pes Cavus
- Pes Planus
- Plantar Aponeurosis (Plantar Fasciitis)
- Plantar Neuroma
- Sesamoiditis
- Shin Splints
- Superficial Achilles Bursitis
- Supple Flatfoot
- Stone Bruise
- Talotibial Exostosis
- Tarsal Tunnel Syndrome
- Tendinitis/Tenosynovitis

Purpose and Application of Adhesive and Elastic Tape

The primary purpose for tape application is to provide additional support and stability for the affected body part. Through proper application, taping techniques can be applied to shorten the muscles angle of pull, decrease joint range of motion, secure pads, bandages and protective devices, and apply compression to aid in swelling reduction.

To tear tape, the adhesive tape is held firmly on each side of the proposed tear line. With proper tension applied on the tape, the free end is pulled away at an angle so that the force crosses the lines of the fabric of the backcloth at a sharp angle. The tear then occurs sequentially through the backcloth. The more quickly this maneuver is done, the more evenly tape edges will be torn. Some brands of elastic tape are extremely hard to tear by hand. Cut those brands with scissors to insure proper tape application and neatness.

Selection of Athletic Training Supplies and Specialty Items

One of the most critical aspects of taping techniques is the selection of proper supplies. Your selection depends on the number and types of sports offered and frequency of injury. Purchasing supplies depend on budget, philosophy of medical staff regarding taping techniques, and occurrence of injury. Special consideration must be given to these additional supplies: benzoin (spray adherent), adhesive versus elastic tape, width of adhesive and elastic tape, and length and width of elastic wraps.

In this text, tape terminology used will be adhesive tape or elastic tape. The adhesive tape is traditionally marketed as non-elastic, white tape. Elastic tape provides greater freedom of mobility to the affected body part, and is marketed as elastic tape. Both adhesive and elastic tapes

are produced in a variety of widths (Adhesive Tape Widths: 1/2", 1", 1-1/2", 2"; Elastic Tape Widths: 1", 2", 3", 4".)

The terminology for elastic wrap is defined as a woven fabric that also allows for expansion and contraction, in which either compression or supportive techniques can be utilized. This product is typically produced in 1, 2, 3, 4, and 6 inch widths. In certain situations, an extra long length is more desirable.

In the preparation of some body parts, skin protection must be considered to achieve proper pre- and post-activity care. A medicated ointment and garment barrier are used in open wound protection. Additional skin protection can be provided, when needed, with BAND-AID (a registered trademark of Johnson & Johnson), gauze, adhesive felt, underwrap, heel and lace pads, and spray adherent. Additionally, felt and foam rubber can be used to protect the affected body part.

Sports Specific Rules on Taping

If you apply supportive techniques to an athlete, you should be aware of specific rules governing tape application in that particular sport. Your application must fall within the guidelines established for each sport by appropriate governing bodies.

Special Techniques - Adjunct Taping Procedures

The taping techniques presented are the fundamental procedures. Adjunct techniques will be shown to provide additional support, however, the fundamental procedures should still be followed. Variations can be achieved by adapting these

techniques to a particular injury situation. Always give special consideration to:

- purpose of the taping procedure
- general condition procedure used for
- correct anatomical position
- proper supply selection.

Preparation of Body Part for Taping

In preparing the body for tape application, consider these six items:

1. Removal of Hair
2. Clean the Area
3. Special Considerations
4. Spray Adherent
5. Skin Lubricants
6. Underwrap

Proper Body Positioning

Before beginning any taping procedure, select a comfortable table height and ask the athlete to assume an anatomically correct and comfortable position. Neutral Position of Foot: When taping the foot, the anatomical position should be slightly plantar flexed (10-15 degrees). Neutral Position of Ankle Joint: With the leg fully extended, the foot should be positioned at a 90 degree angle. Position yourself in a good postural alignment to minimize strain and fatigue.

TAPING TECHNIQUES

The taping techniques presented in this text are the fundamental procedures. A strong knowledge of anatomy is essential. To increase your knowledge in anatomy, please consult the texts listed at the end in Appendix B.

NOTE: Wrapping Techniques for Support and Compression

Chapter 2 of the text covers specific procedures related to wrapping techniques. The following procedures are detailed in Chapter 2.

Wrapping Technique for Support
• Ankle Cloth

Wrapping Technique for Compression
• Ankle

Great Toe

Purpose: To limit excessive motion of the first metatarsophalangeal joint (MP Joint), therefore helping to prevent or stabilize a sprain or turf toe.

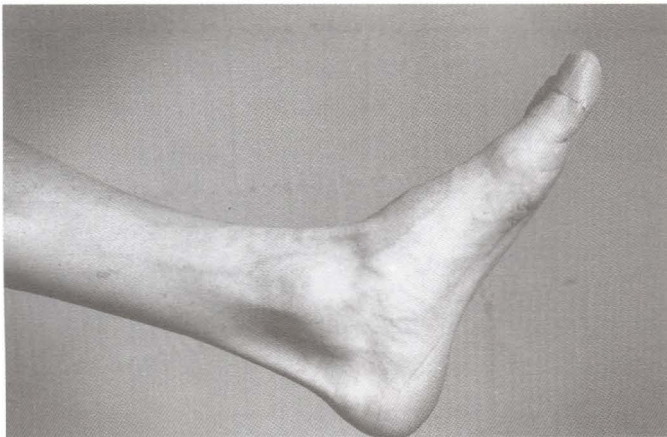
General Condition Procedure Used For: Sprain to first metatarsophalangeal joint (turf toe).

Anatomical Structure: First metatarsal joint (great toe).

Anatomical Position: Ankle should be placed in neutral position and first MP joint placed in neutral position.

Supplies Needed: 1" or 1-1/2" adhesive tape, and 2" elastic tape.

Pre-Taping Procedures:



-
1. To begin the taping procedure, place the athlete's ankle and the first MP joint in a neutral position and cover the nail with a BAND-AID.
-

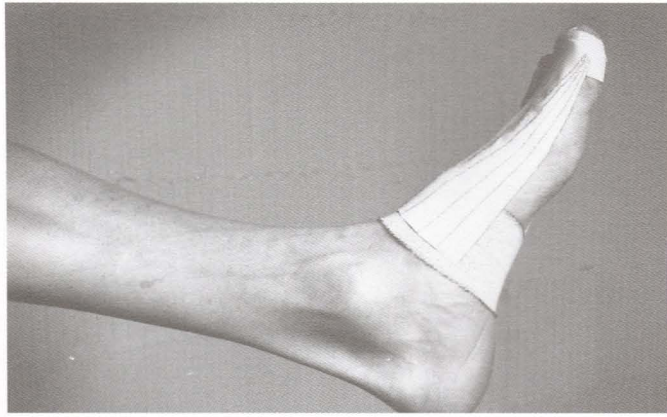
Taping Procedures:



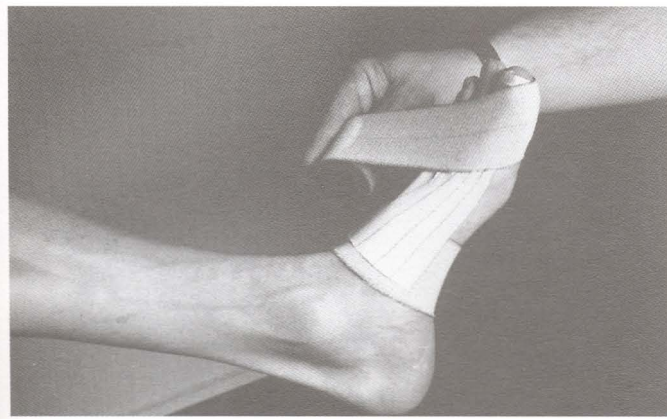
1. Apply two anchor strips.

A) Apply adhesive anchor strip around distal aspect of the great toe.

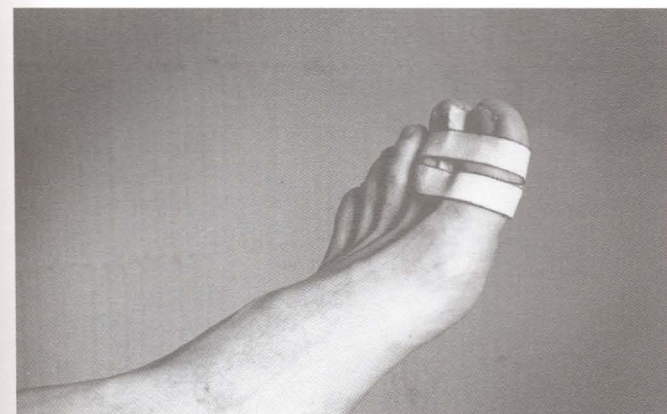
B) Apply elastic anchor strip around the mid-foot. This strip should begin on the dorsal aspect, go lateral, and continue across the plantar aspect to the mid-foot medial portion, crossing the tape ends.



2. Four to six strips of adhesive tape should be applied to form a fan shape. This will provide adequate support. Place fan-shaped tape from the anchor on the great toe, covering the affected area and ending on the elastic anchor at the mid-foot.



3. Using a continuous strip of elastic tape, apply a figure of eight around the great toe and mid-foot. This will aid in abduction of the first MP joint and should assist in preventing excessive movement, flexion or extension of the MP joint.



Adjunct Taping Procedure: GREAT TOE

This adjunct taping procedure can be used in conjunction with the basic technique presented.

Technique A: Apply two circular strips of adhesive tape, around the proximal and distal aspect of 1st and 2nd phalanges. This is commonly referred to as buddy taping.

HEEL

Purpose: To provide compression and support to the calcaneous fat pad and underlying tissue.

General Condition Procedure Used for: Contusion to the heel area.

Anatomical Structure: Calcaneous (Heel).

Anatomical Position: Place ankle joint in neutral position.

Supplies Needed: 1" or 1-1/2" adhesive tape.

Pre-Taping Procedure: Apply Tuf-Skin[®] tape adherent to affected area.

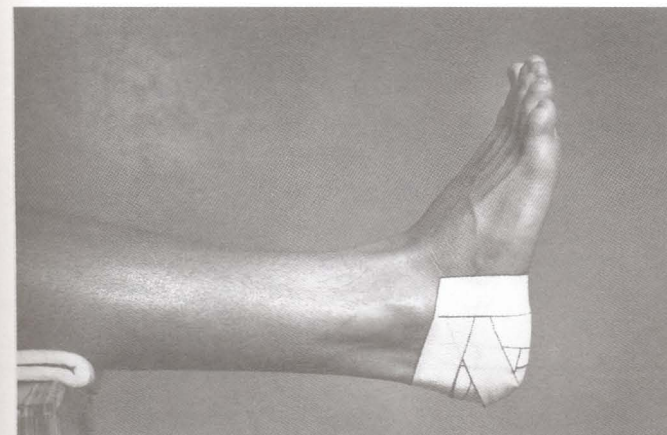
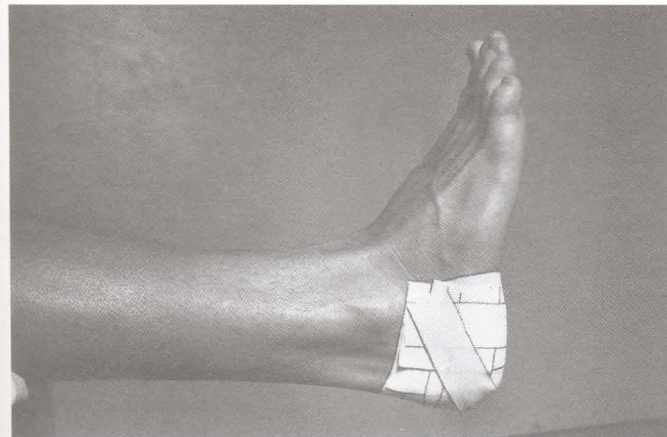
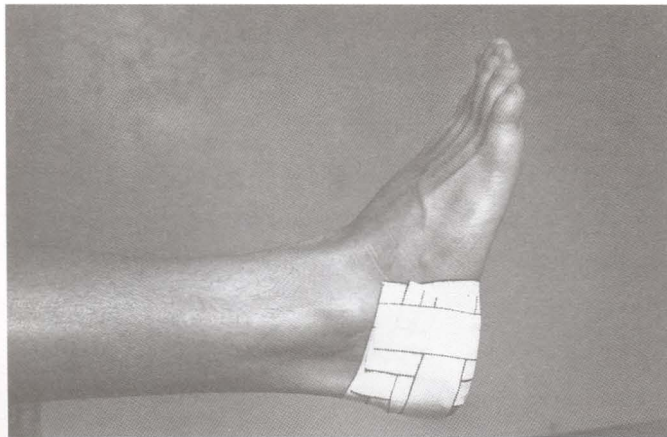
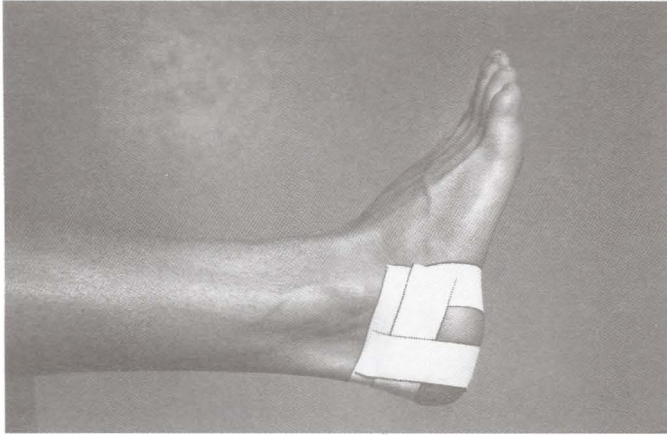
Taping Procedures:



1. Apply anchor strips (medical to lateral) to enclose affected heel area.

A) Across the Heel (plantar surface)

B) Around the Heel (posterior surface)



2. Using an alternation method, apply four to six strips of tape that apply direct pressure to the heel. These support strips should overlap one-half the tape width. The tape should be applied proximal to distal on the plantar surface of the foot.

3. To cover the entire heel area, apply a diagonal strip of tape starting on the medial aspect, crossing the heel, and end on the lateral aspect.

4. To close, place an anchor strip around the heel, from the medial to lateral side of the foot.

Metatarsal Arch

Purpose: To elevate the metatarsals heads.

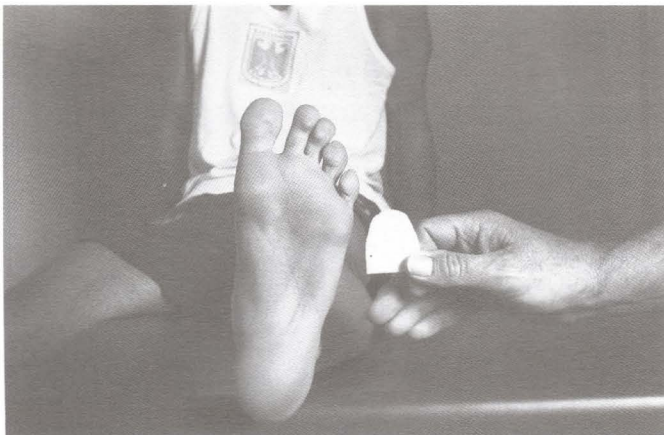
General Conditions Procedure used for: Dropped metatarsals, contusions, strains and sprains.

Anatomical Structure: Metatarsal arch.

Anatomical Position: Ankle should be positioned in a slight plantar flexed position.

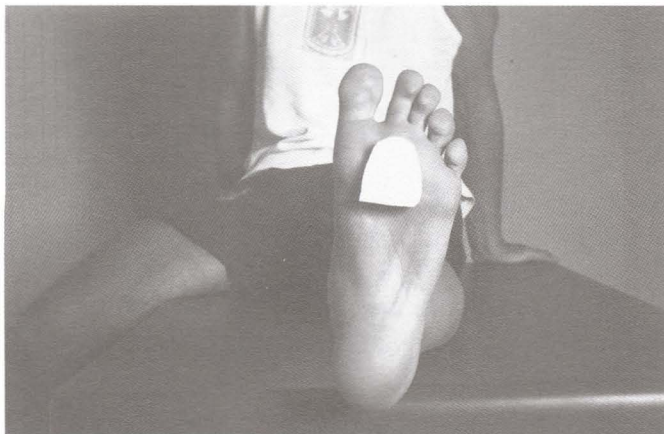
Supplies needed: 1/4" or 1/2" felt, 2" or 3" elastic tape, and 1-1/2" adhesive tape.

Pre-taping Procedure:



-
1. 1/4" or 1/2" felt should be cut in a diamond shape (metatarsal pad) with all sides slightly tapered.
-

Taping Procedures:



-
1. Place the metatarsal pad proximal to the heads of the 2nd through 4th metatarsals.
-



2. Secure this supportive pad to the foot by utilizing elastic tape. It is preferred that this circular strip begin on the dorsal aspect, go lateral, and continue across plantar aspect to medial portion of the foot, crossing the tape ends.

3. A strip of 1-1/2" adhesive tape should be applied over the tape ends to secure the elastic tape.

Inner Longitudinal Arch

Purpose: To support the bones, ligaments, muscles, and accessory components on the plantar surface of the foot.

General Conditions Procedure used for: Arch sprains, shin splints and common overuse injuries.

Anatomical structure: Plantar surface of the foot.

Anatomical position: Ankle should be positioned in a slight plantar flexed position.

Supplies Needed: 1" and 1-1/2" adhesive tape, 2" elastic tape, and heel and lace pad.

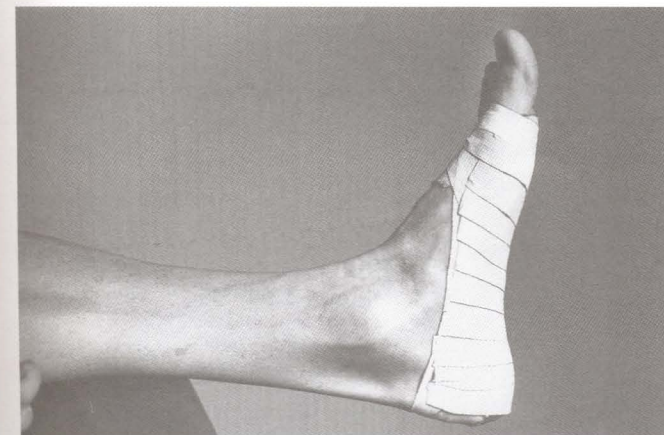
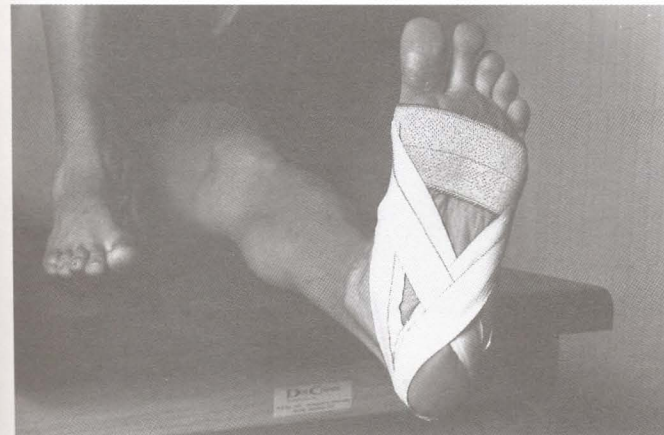
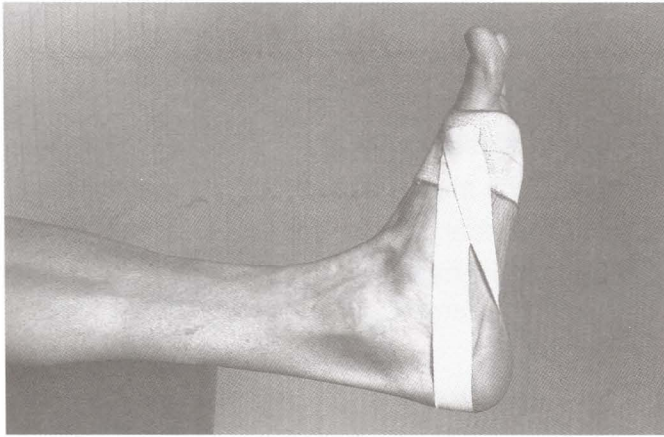
Taping Procedures:



1. Place an anchor strip of 2" elastic tape around the metatarsals. This circular strip should begin on the dorsal aspect, go lateral, and continue across the plantar aspect to the medial portion of the foot, crossing the tape ends.



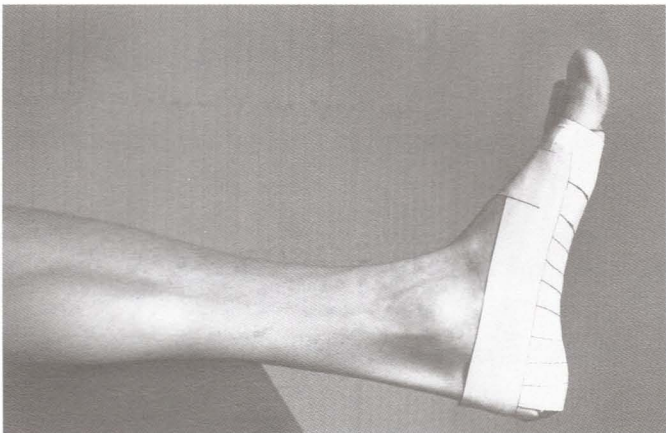
2. Next, starting at the medial aspect of the 1st MP joint, apply 1" adhesive tape along the inside of the foot, around the heel, pulling diagonally across the plantar surface, and ending on the medial aspect of the 1st MP joint.



3. Next, start at the lateral aspect of the 5th MP joint and place a strip of 1" adhesive tape on the outside of the foot, around the heel, pulling diagonally across the plantar surface, and back to the lateral aspect of the 5th MP joint.

4. Repeat steps #2 and #3. Remember to overlap the tape one-half its width.

5. Starting at the foot's proximal aspect, apply strips of tape from the lateral to medial side. The tape strips should cover the foot's entire plantar surface. This should provide additional support to the inner longitudinal arch.



6. To close, apply a 1-1/2" adhesive anchor strip from the medial aspect of the 1st metatarsal, around the heel, and to the lateral aspect of the 5th metatarsal head.



Adjunct Taping Procedure:
INNER LONGITUDINAL ARCH

This adjunct taping procedure can be used in conjunction with the basic technique presented.



Technique A: Apply 3" elastic tape around the mid-foot area. It is preferred that this circular strip begin on the dorsal aspect, go lateral, and continue across the plantar aspect to the medial portion of the foot, crossing the tape ends.

Toe Splint

Purpose: To aid and support the injured phalanx.

General Conditions Procedure used for : Contusions, sprains, and strains to the phalanges of the foot.

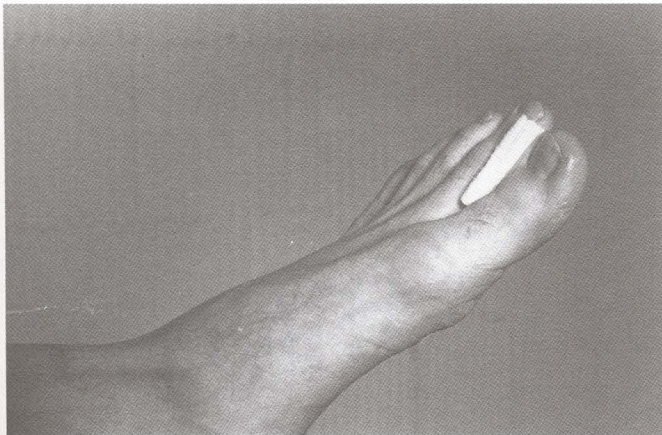
Anatomical Structure: Phalanges.

Anatomical Position: Neutral position.

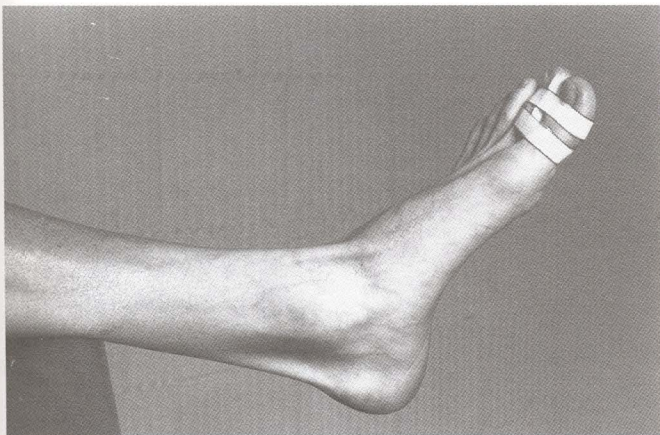
Supplies Needed: 1/2" adhesive tape, gauze, felt and/or foam rubber.

Pre-taping Procedure: Cut gauze, felt, or foam rubber to appropriate size.

Taping Procedures:



1. Place gauze between the affected and adjacent phalanges.



2. Then apply the 1/2" adhesive tape around both phalanges. This technique is known as buddy taping.

PLANTAR FASCIITIS

Purpose: To aid in the reduction of stress on the plantar fascia and related foot structures.

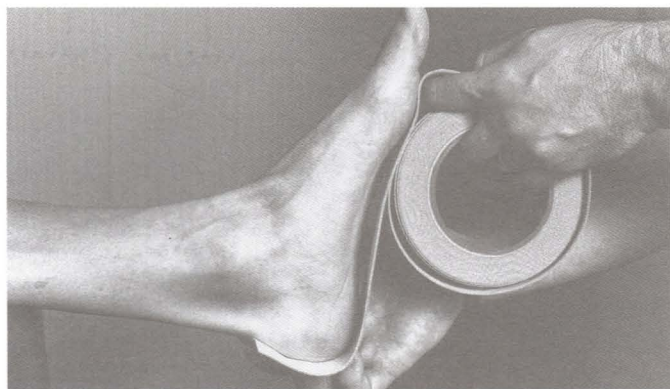
General Condition Procedure used for: Plantar Fasciitis.

Anatomical Structure: Plantar surface of the foot.

Anatomical Position: Ankle placed in a slightly plantar flexed position.

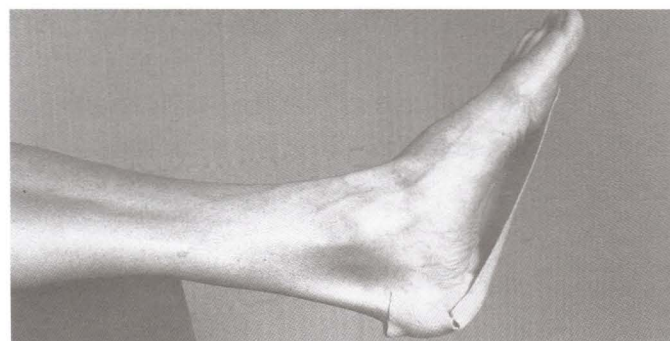
Supplies Needed: 3" adhesive felt (moleskin), 2" elastic tape, and 1-1/2" adhesive tape.

Pre-Taping Procedure:

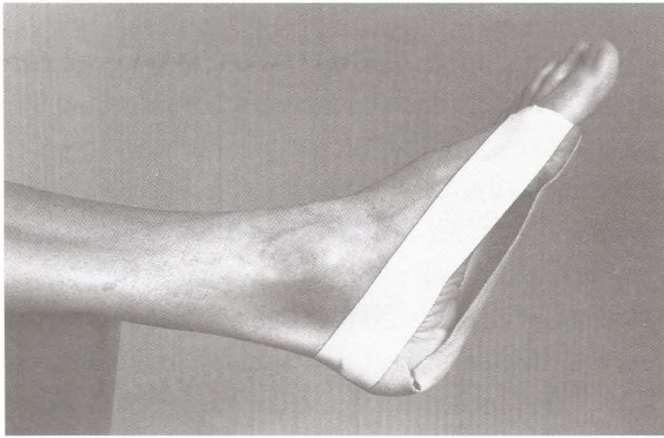


-
1. Before you begin, cut the adhesive felt to the length which measures from the metatarsal heads to the heel's posterior aspect.
-

Taping Procedures:



-
1. With the ankle slightly plantar flexed, apply the adhesive felt strip at the posterior aspect of the heel and firmly pull toward the metatarsal heads. To eliminate binding, cut a "V" on both edges of the adhesive felt where the felt crosses the heel area. Once adequate tension is applied, press the adhesive felt against the plantar aspect of the foot.
-



2. Next, apply a 1-1/2" adhesive anchor strip from the medial aspect of the 1st metatarsal, around the heel, to the lateral aspect of the 5th metatarsal head.



3. Apply 2" elastic tape around the mid-foot area. This circular strip should begin on the dorsal aspect, go lateral, continue across the plantar aspect to the foot's medial portion, crossing the tape ends.

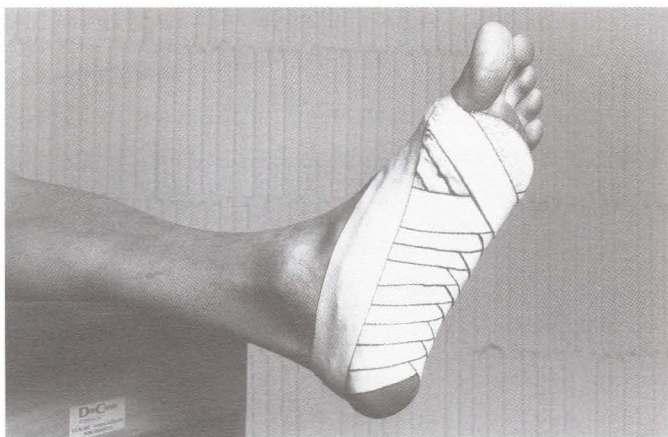


Adjunct Taping Procedures: PLANTAR FASCIITIS

These adjunct taping procedures can be used in conjunction with the basic technique presented.



Technique A: The athlete should be instructed to slightly plantar flex the ankle and flex the phalanges. Apply a 2" adhesive felt anchor strip from the medial aspect of the 1st metatarsal head, around the heel, to the lateral aspect of the 5th metatarsal head (allow 1" additional length on both ends of this strip). Both ends of this strip of moleskin are to be split lengthwise approximately two inches, and the ends of the tape should be placed on the dorsal and plantar aspect of the 1st and 5th metatarsals.



Technique B: *The "X" pattern technique.*

Apply a 1-1/2" adhesive tape anchor strip from the medial aspect of the 1st metatarsal head, around the heel, to the lateral aspect of the 5th metatarsal head. Place an anchor strip of 2" elastic tape around the head of the metatarsals (lateral to medial). It is preferred that this circular strip begin on the dorsal aspect, go lateral, and continue across plantar aspect to medial portion of the foot, crossing the tape ends. Starting at the proximal aspect of the foot (heel), apply strips of 1" adhesive tape in a diagonal fashion (45 degrees). The application of the 1" strips will alternate from lateral to medial and vice versa. The tape strips should cover the entire plantar surface of the foot. A closure strip of 1-1/2" adhesive tape is applied from the medial aspect of the 1st metatarsal head, around the heel, to the lateral aspect of the 5th metatarsal head.

ANKLE

Purpose: To support and stabilize the ankle joint for INVERSION sprains.

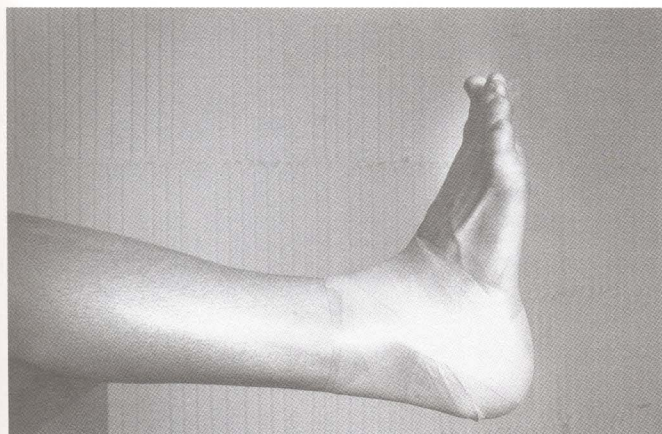
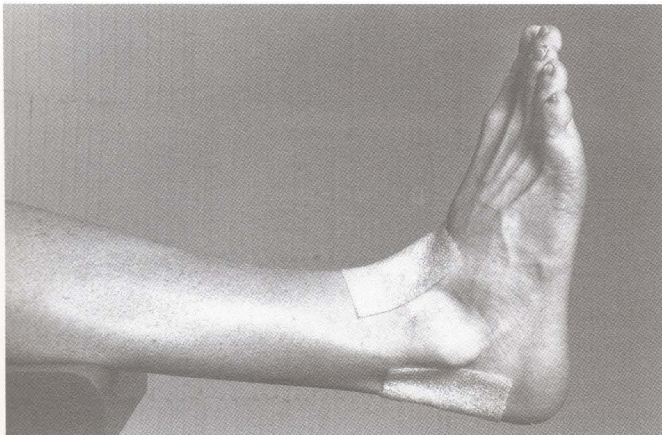
General Condition Procedure Used For: Sprains.

Anatomical Structure: Ankle joint.

Anatomical Position: Ankle joint in neutral position.

Supplies Needed: 1-1/2" or 2" adhesive tape, and heel and lace pads.

Pre-taping Procedures:



-
1. Before you begin taping, apply heel and lace pads at high friction areas: one at the distal aspect of the achilles tendon, the other at the dorsal aspect of the ankle joint. Additionally, apply underwrap to secure the two heel and lace pads in place and reduce skin irritation. It is critical that the foot remain at a 90 degree angle for this procedure.
-

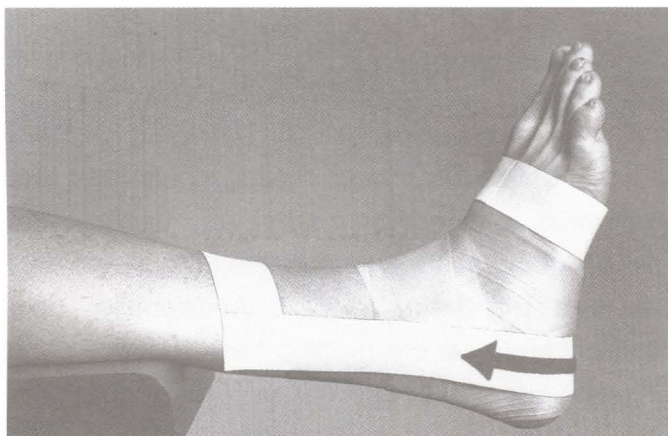
Taping Procedures:



1. Apply an adhesive tape anchor strip around the lower leg at approximately the musculotendon junction of the gastrocnemius. Since the leg at this site is not cylindrically shaped the tape must be angled slightly to conform to the leg.



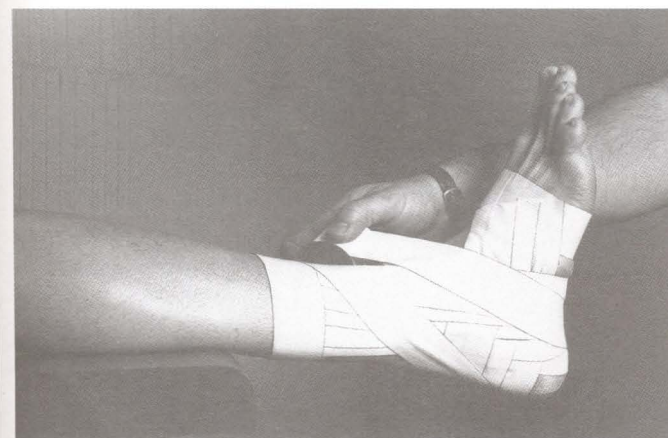
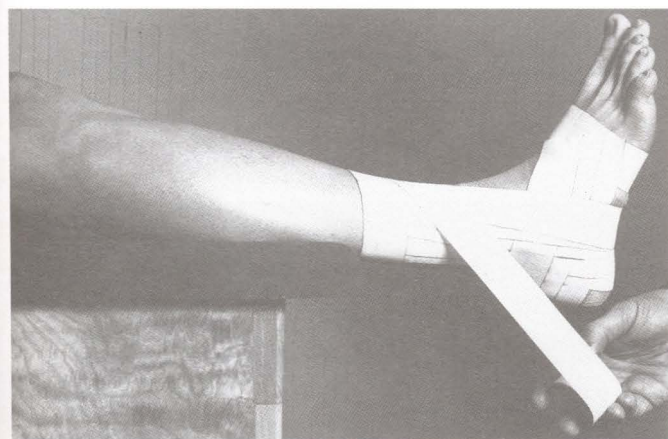
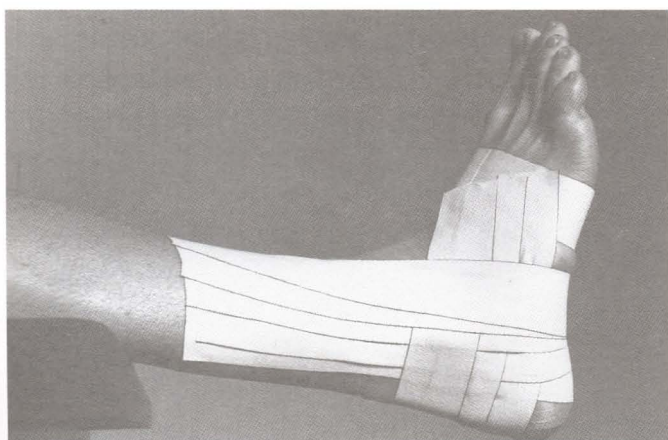
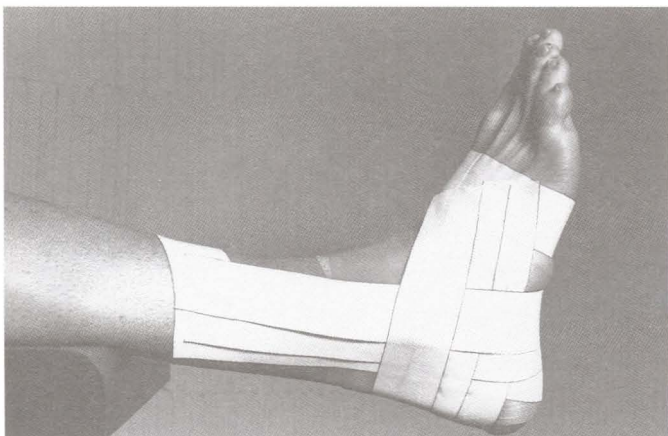
2. Apply an additional anchor at the instep. Remember that excessive tension on the 5th metatarsal could cause pain on weight bearing.



3. Apply the first of three stirrup strips. Beginning on the medial aspect of the upper anchor, this stirrup continues down the inside of the leg, over the medial malleolus, across the plantar aspect of the foot, over the lateral malleolus, up the lateral aspect of the leg, and ends at the lateral aspect of the upper anchor. Proper tension must be applied to cause some eversion of the foot, thus helping to reduce inversion.

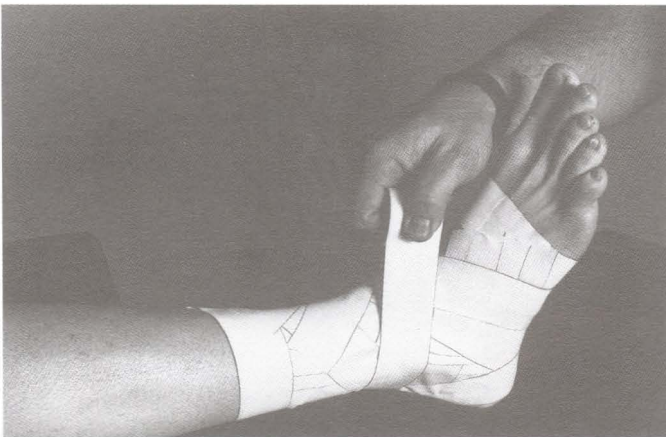
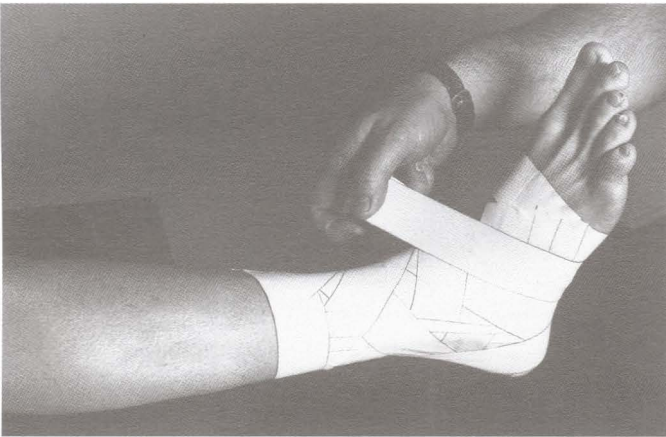
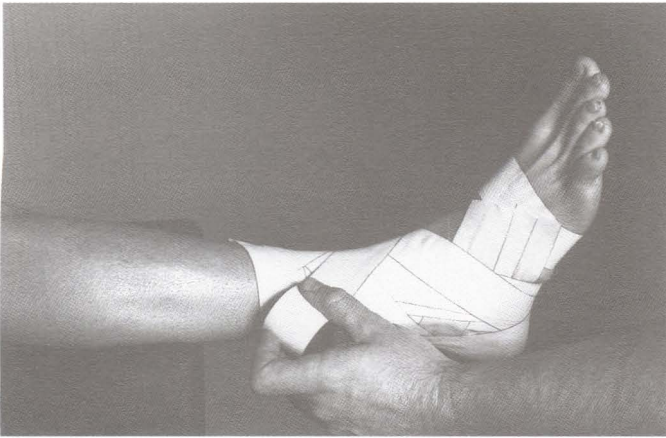
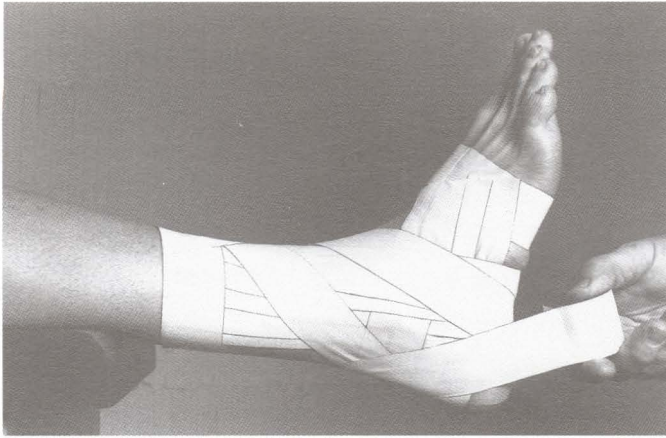


4. Apply the first of three horseshoe strips. The first horizontal strip is started on the medial aspect of the foot, continues toward the heel and below the medial malleolus, crosses the achilles tendon below the lateral malleolus, and ends on the lateral aspect of the foot.



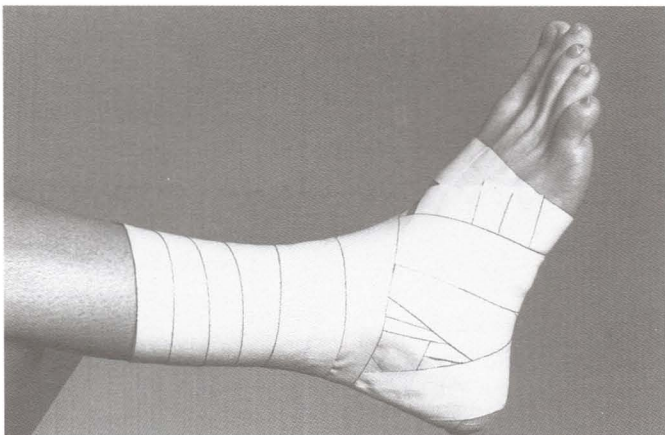
5. Repeat steps #3 and #4 twice, overlapping the tape one-half its width. These interlocking strips should provide additional support for this technique. The completed portion of this closed basket weave has sets of interlocking stirrups and horseshoe strips. Apply a proximal anchor for support. For proper adherence, apply compression to the tape so that the tape conforms to the body part.

6. Apply the first heel lock strip. Begin on the anterior portion of the upper anchor. This lateral heel lock will continue down the outside of the leg, crossing the achilles tendon, around the medial aspect of the heel, angling underneath the foot, and moving up the lateral aspect of the leg. Proper tension must be applied to insure stabilization of the calcaneus.



7. Apply the second heel lock strip. Begin on the anterior portion of the upper anchor. This medial heel lock will continue down the inside of the leg, crossing the achilles tendon, around the lateral aspect of the heel, angling underneath the foot, and moving up the medial aspect of the leg.

8. A figure of eight is applied next. Starting on the dorsal aspect of the foot, move medially down the inside of the foot, across the plantar portion, up the outside of the foot to the starting point. Continuation of the tape will proceed medially around the lower leg crossing the achilles tendon, and finishing at the origin of this figure of eight technique. By encircling the foot and lower leg, this technique will assist in dorsal flexion and eversion.



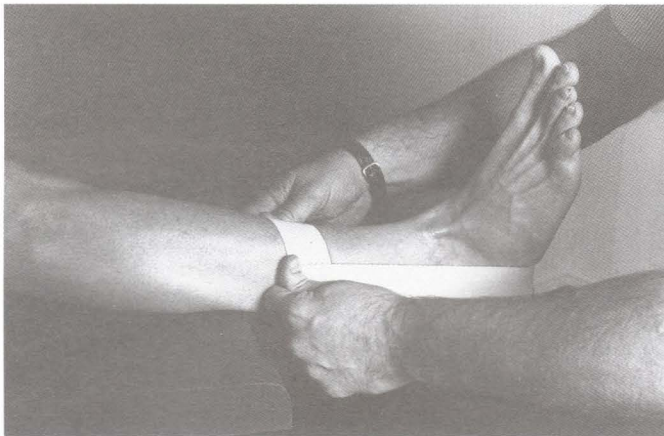
9. Final closure strips are then applied. Begin proximally and work distally. From the upper anchor, apply individual circular strips around the extremity to cover tape ends. Make sure you overlap the tape approximately one-half its width on each strip.



ADJUNCT TAPING PROCEDURES: ANKLE

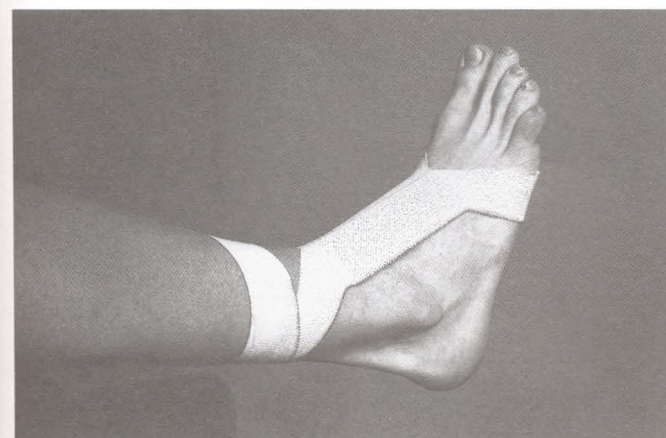
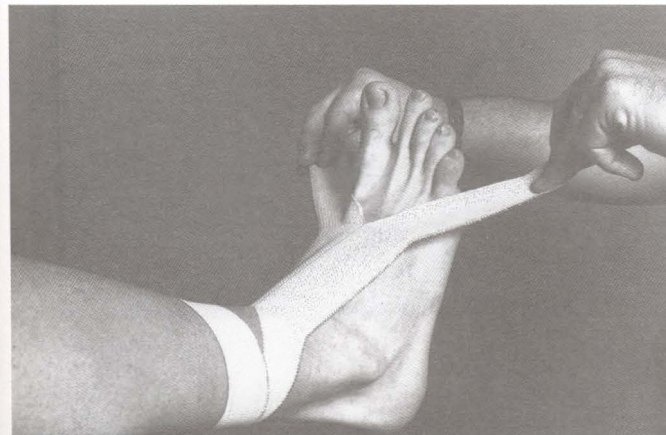
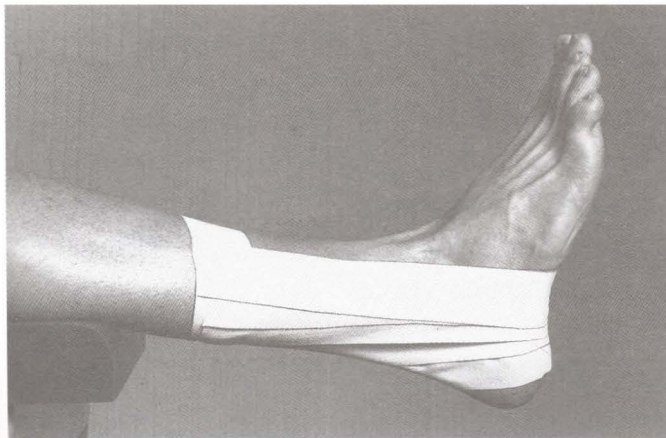
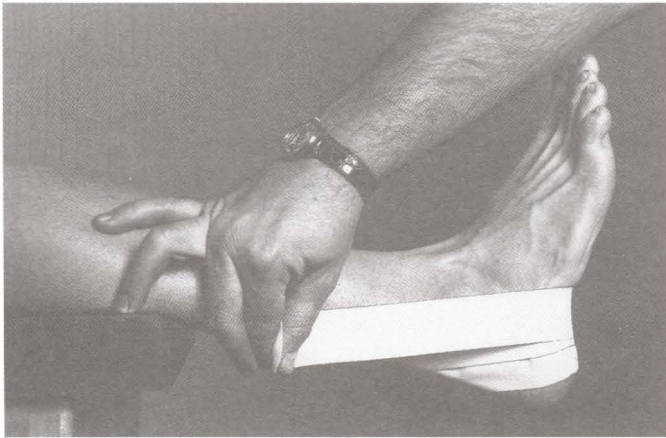
These adjunct taping procedures can be used in conjunction with the basic technique presented.

Technique A: In conjunction with the stirrups, adhesive felt can be applied for additional support. This is applied from the medial to the lateral aspect.



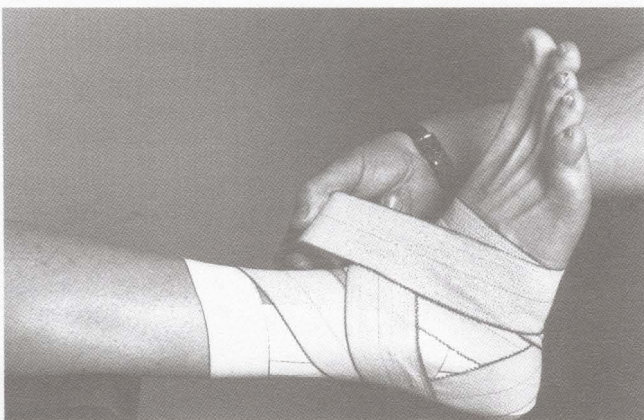
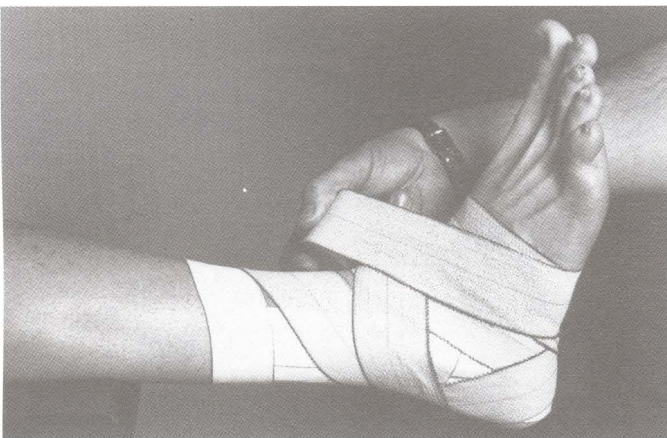
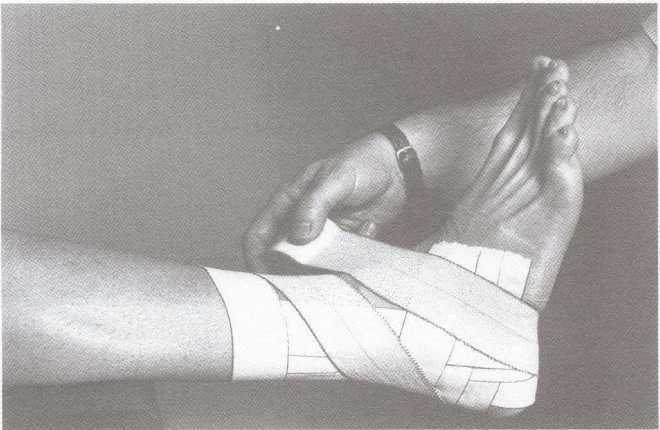
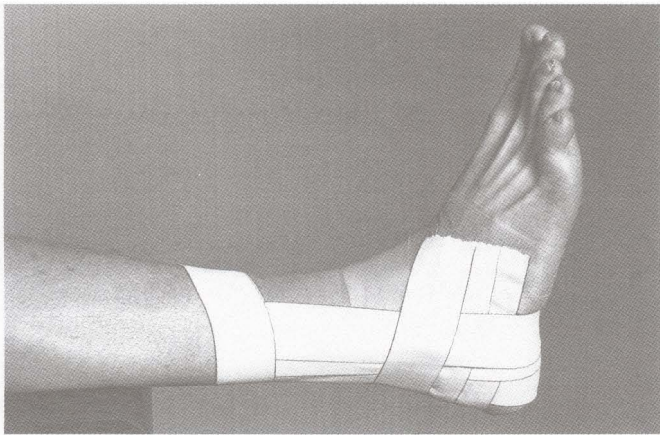
Technique B: In certain situations, joint trauma could be present on both the medial and lateral aspects of the ankle joint. It is recommended that the stirrups be placed on the plantar portion of the heel with equal tension applied both medially and laterally prior to attachment on the upper anchor.

Technique C: This technique is known as the Spartan technique. Using 2" adhesive tape, approximately 24-30 inches in length, place the middle portion of this stirrup strip on the plantar portion of the heel. Split each end approximately 10-12 inches. Starting on the medial side, place the first half strip below and in front of the medial malleolus and spiral up the leg. The second half of that strip will be placed below and behind the medial malleolus and spiral up the leg. Repeat this procedure on the lateral side. Two to three strips of adhesive tape using the Spartan technique are shown to provide additional stability to ankle joint.



Technique D: Next, the Side Bar technique will provide additional support to either the medial or lateral aspect of the ankle joint. Using 1-1/2" adhesive tape, lateral side bars will anchor on the medial aspect of the foot, angling underneath the foot, moving up the lateral aspect of the leg and ending on the upper anchor. Depending on the size of the foot and severity of the injury, four to eight overlapping side bar strips can be applied.

Technique E: The Dorsal Checkrein aids in preventing the ankle joint from excessive plantar flexion. Using 3" elastic tape, cut a strip 12-15" in length, split both ends lengthwise approximately four inches. With the ankle in neutral position, encircle the lower leg with one of the split ends, pulling the tape to full tension. Encircle the mid-foot region with the other split ends of the elastic tape.



Technique F: In the combined elastic and adhesive tape technique, using 2" elastic tape, apply heel locks and figure of eights in a continuous fashion.

Ankle: Open Basket Weave

Purpose: To provide compression and support to the ankle joint, while allowing room for expansion due to swelling. This technique is commonly used for acute ankle injury treatment.

General Condition Procedure Use for: Acute ankle sprain.

Anatomical Structure: Ankle joint.

Anatomical Position: Ankle joint in neutral position.

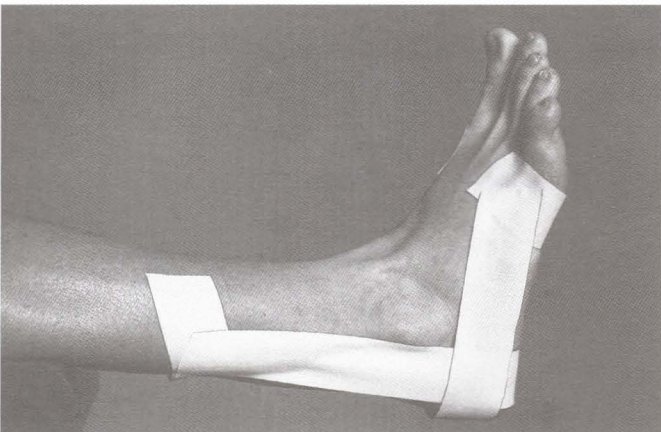
Supplies Needed: 1-1/2" or 2" adhesive tape and 4" elastic wrap.

Pre-Taping Procedure: After hair removal, make sure the skin is clean and moisture free. Skin protection is important. Provide special care if the skin has allergies, infections, or open and closed wounds. Spray the affected area with an adherent to aid in the adhesive quality, and provide stability to the supportive technique.

Taping Procedures:



1. In this application, leave a one inch gap on the anterior aspect of the foot and ankle to allow for swelling. With the ankle joint in a neutral position, apply an adhesive tape anchor strip around the lower leg at approximately the musculo-tendon junction of the gastrocnemius. Since the leg at this site is not cylindrically shaped, the tape must be angled slightly. Apply a distal anchor at the instep.

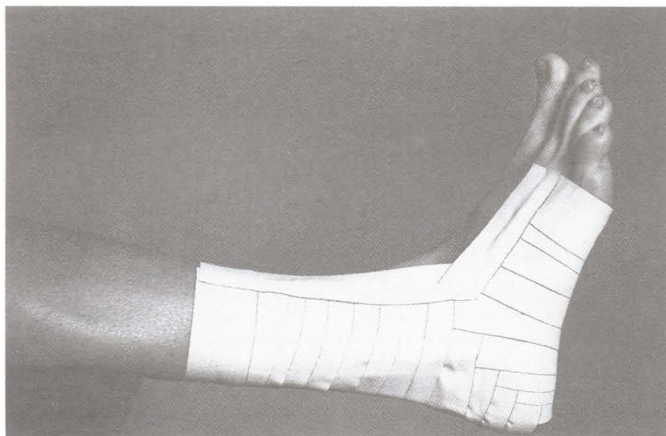


2. Apply the first stirrup strips. Beginning on the medial aspect of the upper anchor, this stirrup continues down the inside of the leg, over the medial malleolus, across the plantar aspect of the foot, up the lateral aspect of the leg, ending at the lateral aspect of the upper anchor. Apply proper tension to prevent ankle inversion.

3. Apply the first horseshoe strips. The first horizontal strip is started on the medial aspect of the foot, continues toward the heel and below the medial malleolus, crosses the achilles tendon, ending on the lateral aspect of the foot.



4. Remembering to overlap the tape one-half its width, repeat steps two and three. These interlocking strips provide additional support.

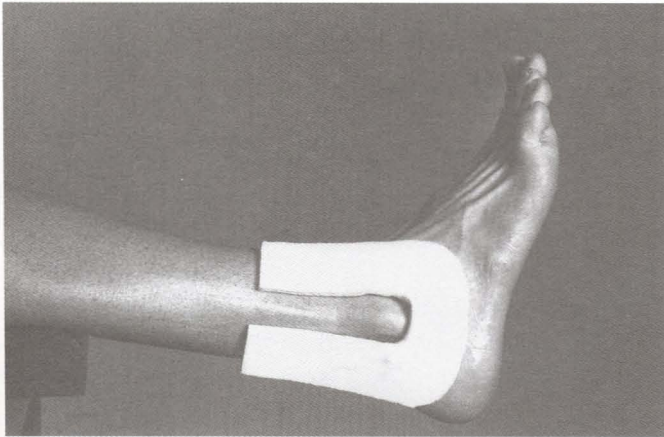


5. On both sides, secure the tape ends with two vertical strips of adhesive tape running from the midfoot anchor to the upper anchor.



6. Using the 4" elastic wrap, begin the wrap at the distal part of the phalanges, spiral the wrap around the foot and ankle and up the lower leg. Secure the wrap with a small strip of adhesive tape.





Adjunct Taping Procedure:

OPEN BASKET WEAVE

This adjunct taping procedure can be used in conjunction with the basic technique presented.

Technique A: Felt horseshoe. To apply additional compression to the lateral aspect of the ankle joint, construct a horseshoe out of 1/2" felt. Placement of this horseshoe is around the lateral malleolus, with the open ends of the horseshoe pointing upward and the curve of the horseshoe just distal to the malleolus. Then apply the open basket weave taping technique over the felt horseshoe.

Shin Splint

Purpose: To help reduce the pain associated with shin splints.

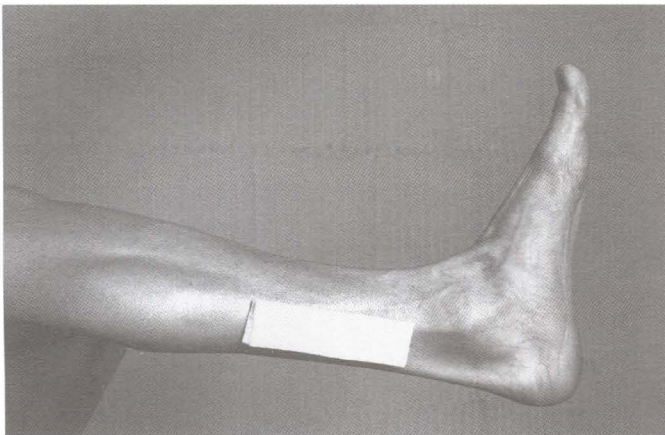
General Condition Procedure Used For: Shin Splints.

Anatomical Position: Knee should be fully extended and ankle joint slightly plantar flexed.

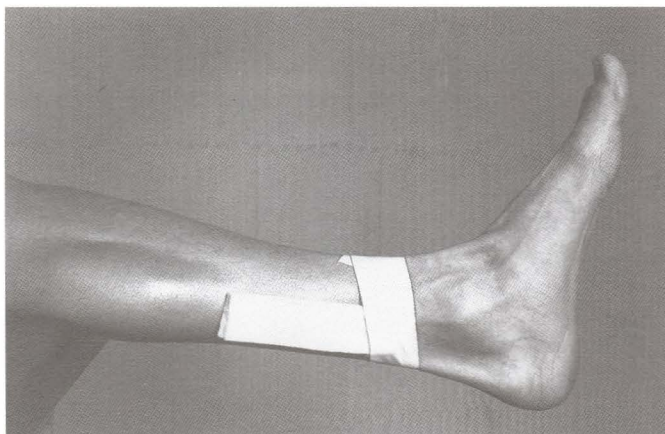
Supplies Needed: 1/2" or 3/8" felt, and 1-1/2" adhesive tape.

Pre-Taping Procedure: Cut felt in 1 inch by 6 inch strip.

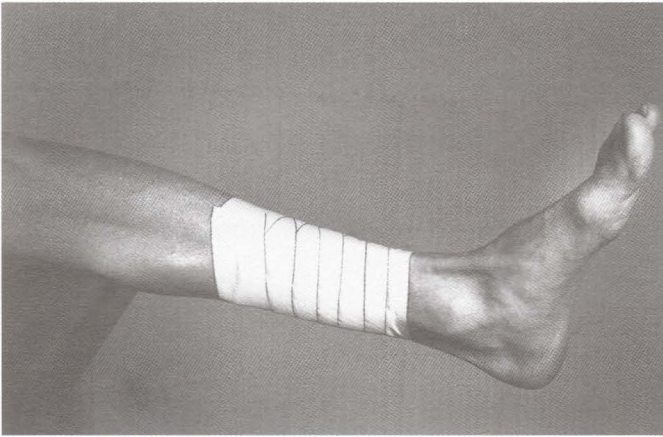
Taping Procedures:



-
1. Place 1" by 6" felt strip over affected area.
-

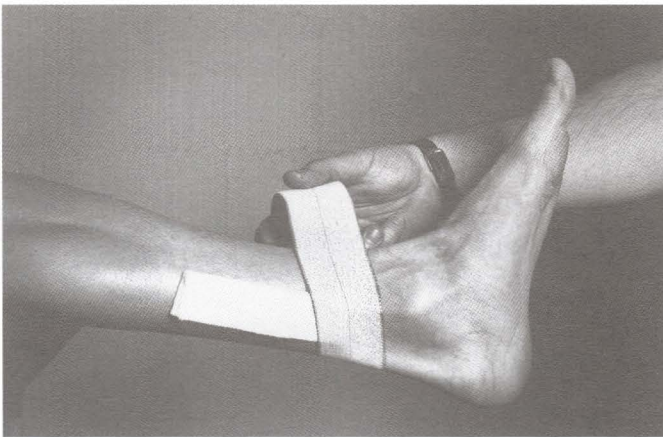


-
2. Apply an adhesive tape strip. Begin the tape one to two inches below the distal end of the felt pad, proceed laterally, cross the achilles tendon and pull the tape and felt back against the tibia. Tear the tape.
-



3. Apply four to six additional overlapping adhesive tape strips as applied in step #2.

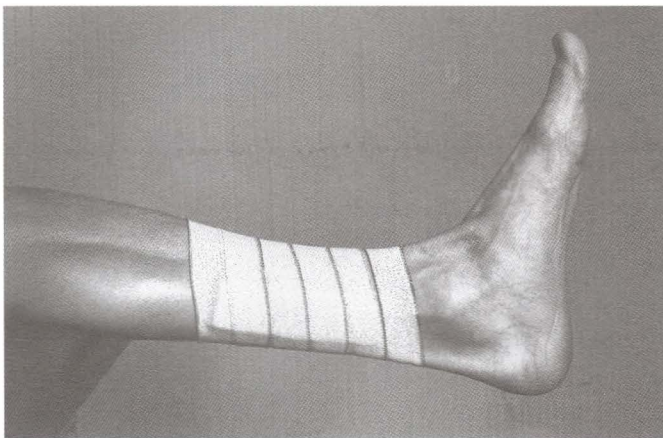
Special Consideration: This taping technique is for pain on the medial aspect of the tibia. For pain on the lateral side of the tibia, pull the tape in the opposite direction.



Adjunct Taping Procedures:

SHIN SPLINT

These adjunct taping procedures can be used in conjunction with the basic technique presented.



Technique A: Use 2" elastic tape in place of 1-1/2" adhesive tape.



Technique B: The “X” pattern technique.

Comment: The posterior aspect of the lower leg is not covered by adhesive tape.



Achilles Tendon

Purpose: To reduce the stress on the achilles tendon.

General Conditions Procedure Used for: Tendinitis and strains of achilles tendon and posterior lower leg.

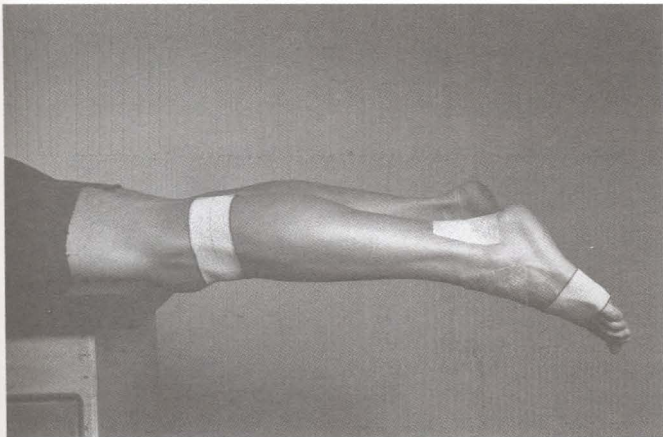
Anatomical Structure: Achilles tendon, gastrocnemius, and soleus muscles.

Anatomical Position: Ankle placed in plantar flexion and knee in slight flexion.

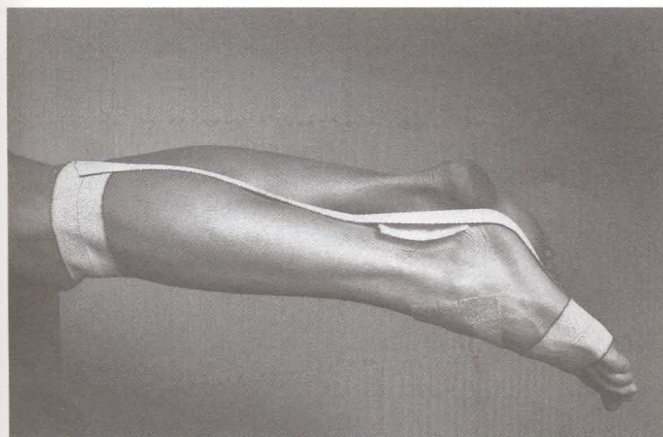
Supplies Needed: 1-1/2" adhesive tape, 3" elastic tape, 1/2" felt, and heel and lace pads.

Pre-Taping Procedures: Apply heel and lace pads at high friction areas: one at the distal aspect of the achilles tendon, the other at the dorsal aspect of the ankle joint.

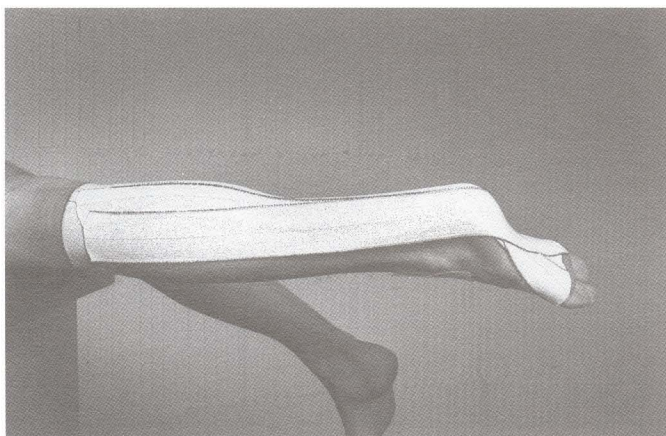
Taping Procedures:



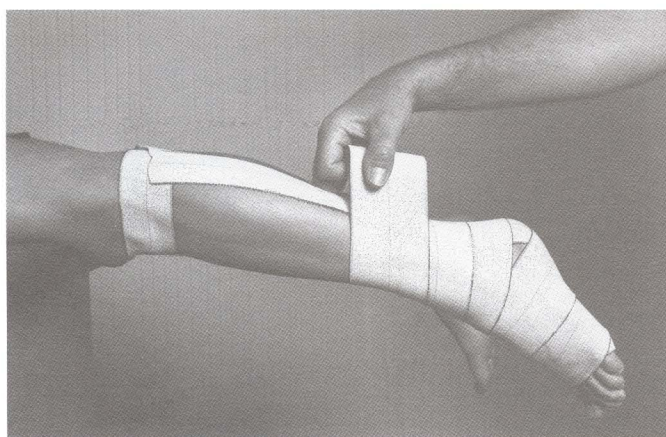
1. Apply two anchors using 3" elastic tape. The proximal anchor should be applied on the proximal aspect of the gastrocnemius. The distal anchor should be applied around the heads of the metatarsals (ball of the foot). It is preferred that this circular strip begins on the dorsal aspect, goes laterally, continues across the plantar aspect, to medial side of the foot, and crossing the tape ends.



2. Using 3" elastic tape, measure on the posterior aspect the distance between the proximal and distal anchors. This will be the length required for your support strips. The first support strip of elastic tape is applied, going from the proximal to the distal anchor. Upon application, full tension should be applied to the tape ends. You will note that the slight knee flexion and plantar flexion is maintained so that there is a small degree of tension across this first support strip.



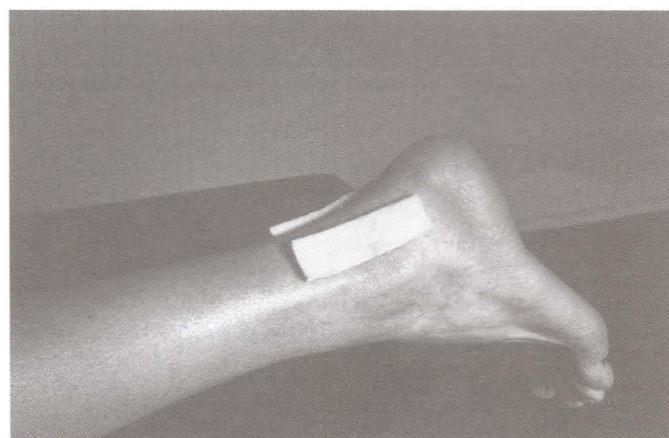
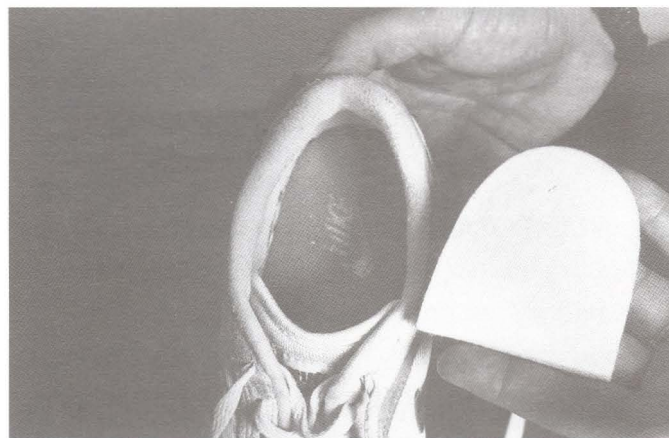
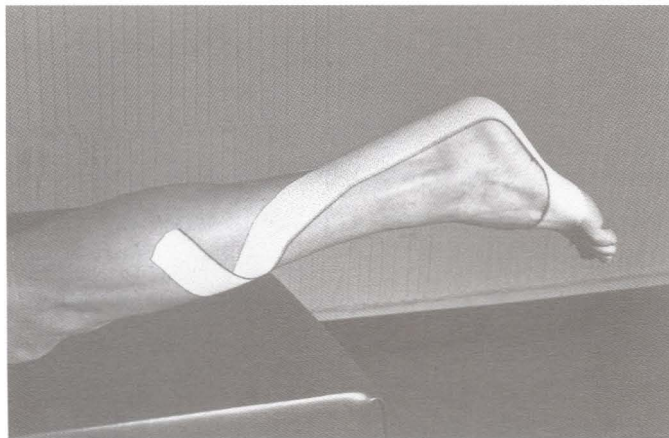
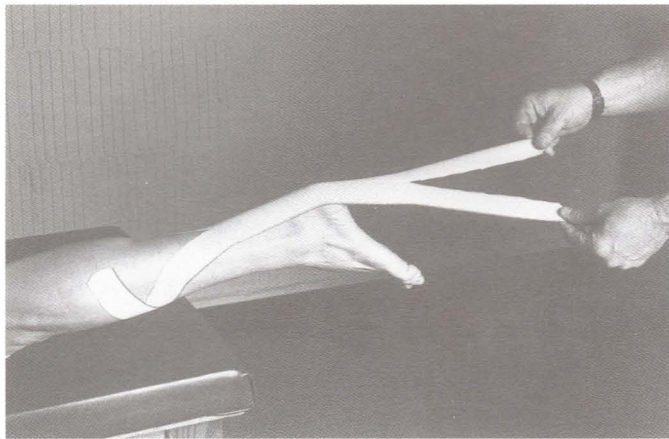
3. Additional strips of support are applied in an angular fashion to cover the posterior aspect of the lower leg and the plantar aspect of the foot. For proper adherence, apply compression to the tape so that the tape conforms to the body parts.



4. Using 3" elastic tape, close up the procedure by overlapping the tape by one-half its width on each revolution.

Comment: Secure the elastic tape ends with anchors of 1-1/2" adhesive tape.





Adjunct Taping Procedure: ACHILLES TENDON

This adjunct taping procedure can be used in conjunction with the basic technique presented.

Technique A: Achilles Tendon Checkrein: This technique will aid in preventing the ankle joint from excessive dorsal flexion. Using 3" elastic tape, cut a strip 15-20 inches in length, split both ends lengthwise approximately five to seven inches. With the ankle in plantar flexion, encircle the mid-portion of the lower leg with the split ends of the elastic tape. Pull the tape to full tension, crossing the heel and rear foot region. Encircle the mid-foot region with the other split ends of the elastic tape. Secure this technique with two anchors of 1-1/2" adhesive tape.

Adjunct Padding Procedure: ACHILLES TENDON

These adjunct padding procedures can be used in conjunction with the basic technique presented.

Special Padding Procedure A: Using 1/2" felt, cut a heel lift to be placed in the posterior aspect of the shoe. Place a similar felt heel lift in the shoe of the unaffected foot.

Special Padding Procedure B: Achilles Tendon Strips: To reduce stress on the tendon, cut two strips of 1/2" felt, 1' x 3". Place one strip lateral and a second strip medial to the achilles tendon. This will help reduce pressure on the achilles tendon when the shoe is worn.

Chapter 4

TAPING TECHNIQUES FOR THE KNEE, THIGH AND HIP

It is imperative that the health care professional develop a thorough knowledge regarding the fundamentals of the application of taping/wrapping procedures. It is recommended that Chapter 1 be reviewed before the application of any technique.

Assessing an Injury

Before applying the first piece of tape, a proper injury evaluation should be completed by a physician. Following injury evaluation, a qualified health care professional can then make recommendations concerning proper taping techniques. This helps insure that proper taping techniques are applied for support and stabilization. Also, it is imperative that the health care professional develop a thorough knowledge of taping application fundamentals.

Anatomical Graphics

The anatomy of the knee, thigh, and hip will consist of all structures from the hip area to below the knee. A brief overview of the bones and ligaments will be followed by a similar section on the muscles and tendons. Please refer to the anatomical graphics on pages 4-2 and 4-3.

Anatomy - Bones

- Femur
- Tibia
- Fibula
- Patella
- Pelvis

Knee Anatomy - Ligaments Knee

- Anterior Cruciate Ligament
- Posterior Cruciate Ligament
- Medial Collateral Ligament
- Lateral Collateral Ligament
- Ligament of Wrisberg
- Transverse Ligament

Hip

- Ligamentum teres
- Transverse acetabular ligament
- Iliofemoral ligament
- Pubofemoral ligament

Knee - Muscles

- Vastus Medialis
- Vastus Lateralis
- Vastus Intermedius
- Rectus Femoris
- Gracilis
- Sartorius
- Semitendinosus
- Semimembranosus
- Popliteus
- Gastrocnemius
- Gluteus medius
- Gluteus minimus
- Gluteus maximus
- Iliopsoas
- Tensor fasciae lata
- Pectineus
- Adductor longus
- Adductor brevis
- Adductor magnus

Common Terminology

Collateral - two ligaments that run along each side of the knee.

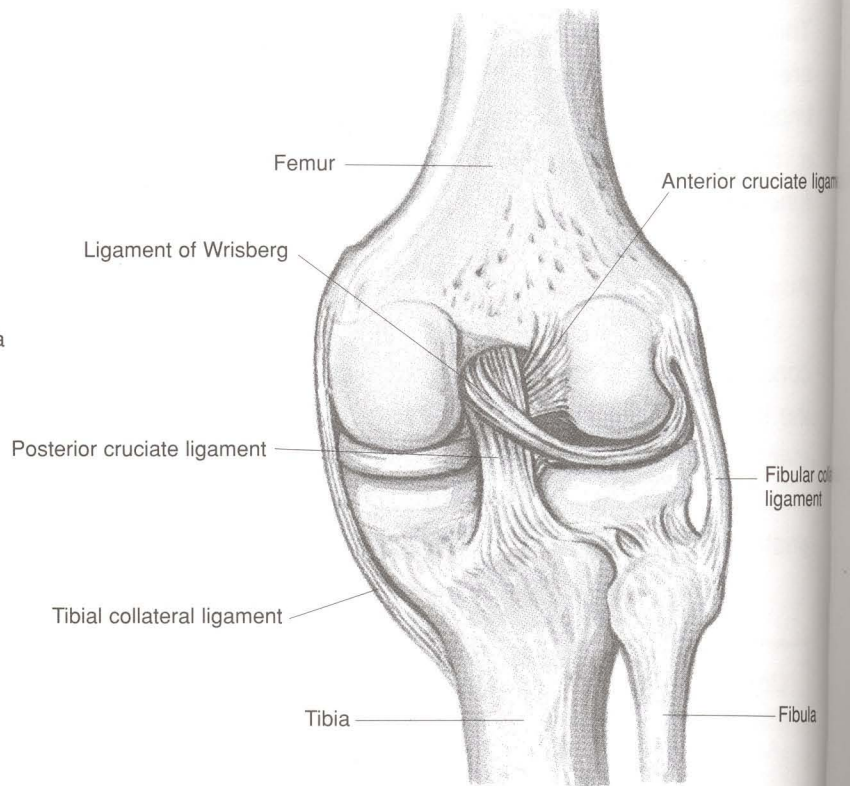
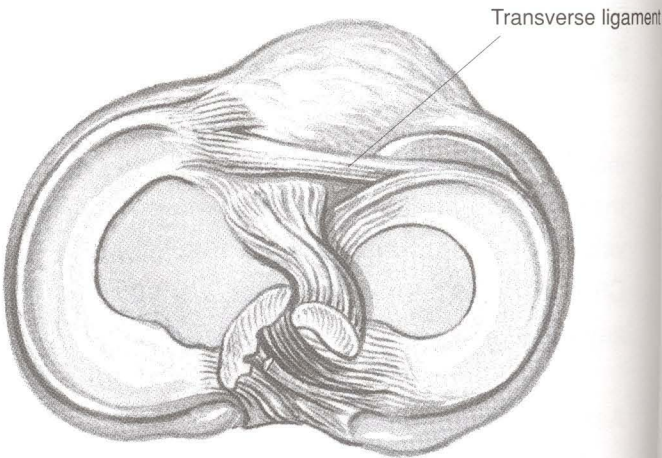
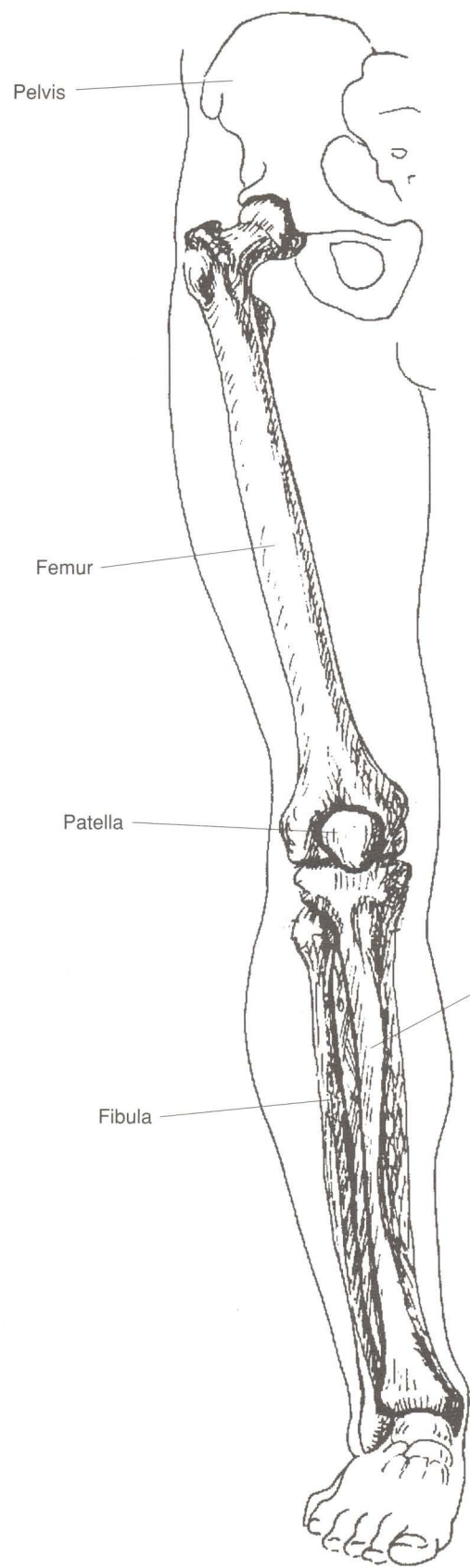
Cruciate - cross shaped.

Menisci - curved fibrocartilages used to deepen the articular facets of the knee.

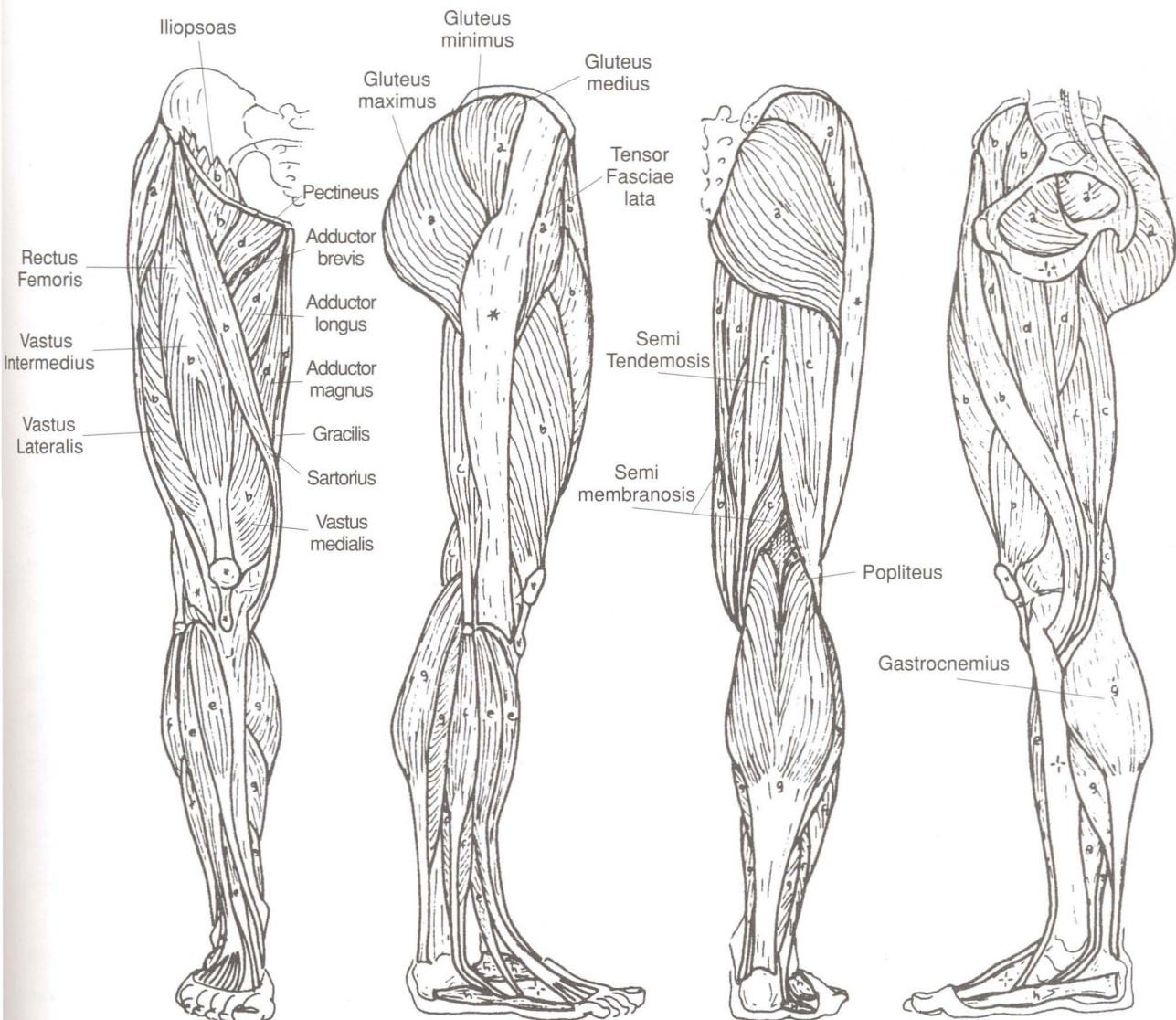
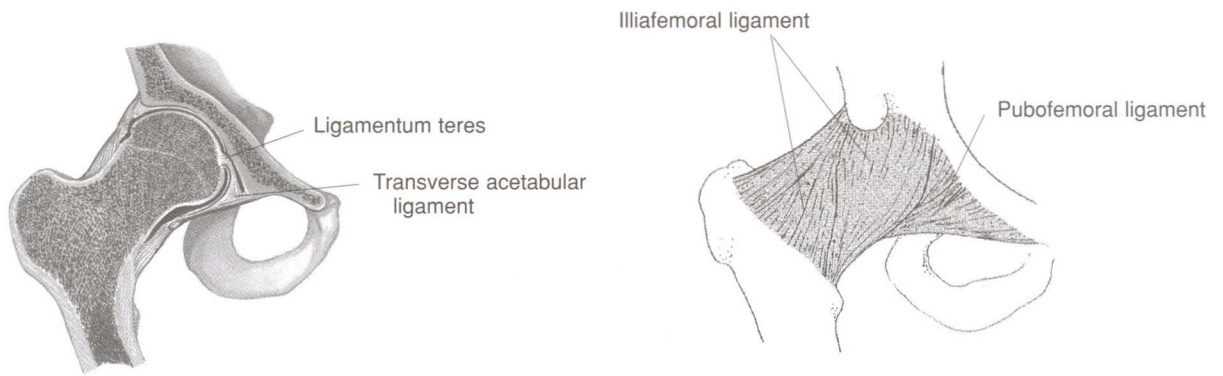
Popliteal space - area behind the knee.

X-Pattern - the crossing of two pieces of tape in the shape of an X.

ANATOMICAL GRAPHICS



ANATOMICAL GRAPHICS



Purpose and Application of Adhesive and Elastic Tape

The primary purpose for tape application is to provide additional support and stability for the affected body part. Through proper application, taping techniques can be applied to shorten the muscles angle of pull, decrease joint range of motion, secure pads, bandages and protective devices, and to apply compression to aid in swelling reduction.

To tear tape, the adhesive tape is held firmly on each side of the proposed tear line. With proper

tension applied on the tape, the free end is pulled away at an angle so that the force crosses the lines of the fabric of the backcloth at a sharp angle. The tear then occurs sequentially through the backcloth. The more quickly this maneuver is done, the more evenly tape edges will be torn. Some brands of elastic tape are extremely hard to tear by hand. Cut those brands with scissors to insure proper tape application and neatness.

Selection of Athletic Training Supplies and Specialty Items

One of the most critical aspects of taping techniques is the selection of proper supplies. Your selection depends on the number and types of sports offered and frequency of injury. Purchasing supplies depend on budget, philosophy of medical staff regarding taping techniques, and occurrence of injury. Special consideration must be given to these additional supplies: benzoin (spray adherent), adhesive versus elastic tape, width of adhesive and elastic tape, and length and width of elastic wraps.

In this text, tape terminology used will be adhesive tape or elastic tape. The adhesive tape is traditionally marketed as non-elastic, white tape. Elastic tape provides greater freedom of mobility to the affected body part, and is marketed as elastic tape. Both adhesive and elastic tapes are produced in a variety of widths (Adhesive Tape Widths: 1/2", 1", 1-1/2", 2"; Elastic Tape Widths: 1", 2", 3", 4".)

The terminology for elastic wrap is defined as a woven fabric that also allows for expansion and contraction, in which either compression or supportive techniques can be utilized. This product is typically produced in 1, 2, 3, 4, and 6 inch widths. In certain situations, an extra long length is more desirable.

In the preparation of some body parts, skin protection must be considered to achieve proper pre- and post-activity care. A medicated ointment

Musculoskeletal Disorders

The following is a list of common musculoskeletal disorders, for which taping/wrapping techniques can be applied. Consult with either *Tabers Cyclopedic Medical Dictionary* or *Signs and Symptoms of Athletic Injuries* for an accurate definition of these terms.

Knee - Quadriceps - Hamstring

- Anterior Cruciate Ligament Sprain
- Bursitis
- Lateral Collateral Ligament Sprain
- Medial Collateral Ligament Sprain
- Meniscal Tear
- Myositis Ossificans
- Popliteal Cyst
- Posterior Cruciate Ligament Sprain
- Tendinitis

Hip - Pelvis

- Bursitis
- Hip Pointer
- Iliotibial Band Syndrome
- Myositis Ossificans
- Quadriceps Contusion
- Sprain
- Strain
- Tendinitis

and garment barrier are used in open wound protection. Additional skin protection can be provided, when needed, with BAND-AID (a registered trademark of Johnson & Johnson), gauze, adhesive felt, underwrap, heel and lace pads, and spray adherent. Additionally, felt and foam rubber can be used to protect the affected body part.

Sports Specific Rules on Taping

If you apply supportive techniques to an athlete, you should be cognizant of specific rules governing tape application in that particular sport. Your application must fall within the guidelines established for each sport by appropriate governing bodies.

Special Techniques - Adjunct Taping Procedures

The taping techniques presented are the fundamental procedures. Adjunct techniques will be shown to provide additional support to the knee, thigh, and hip, however, the fundamental procedures should still be followed. Variations can be achieved by adapting these techniques to a particular injury situation. Always give special consideration to:

- Purpose of the taping procedure
- General condition procedure used for
- Correct anatomical position
- Proper supply selection.

Preparation of Body Part for Taping

In preparing the body for tape application, consider these six items:

1. Removal of Hair
2. Clean the Area
3. Special Considerations
4. Spray Adherent
5. Skin Lubricants
6. Underwrap

Proper Body Positioning

Before beginning any taping procedure, select a comfortable table height and ask the athlete to assume an anatomically correct and comfortable position. During the application of these procedures, instruct the athlete to contract the muscle groups. From the standing position, the knee and hip joints should be slightly flexed (10-15 degrees). Position yourself in a good postural alignment to minimize strain and fatigue.

TAPING TECHNIQUES

The taping techniques presented in this text are the fundamental procedures. A strong knowledge of anatomy is essential. To increase your knowledge in anatomy, please consult the texts listed in Appendix B.

NOTE: Wrapping Techniques for Support and Compression

Chapter 2 of the text covers specific procedures related to wrapping techniques. The following procedures are detailed in Chapter 2.

Wrapping Technique for Support

- Knee Joint
- Hamstring
- Quadriceps
- Hip Flexor
- Hip Adductor

Wrapping Technique for Compression

- Knee

Collateral Knee

Purpose: To provide support and stability to the collateral ligaments of the knee.

General Condition Procedure Used For: Sprains.

Anatomical Structure: Knee joint.

Anatomical Position: Knee joint in slight flexion (10-15 degrees).

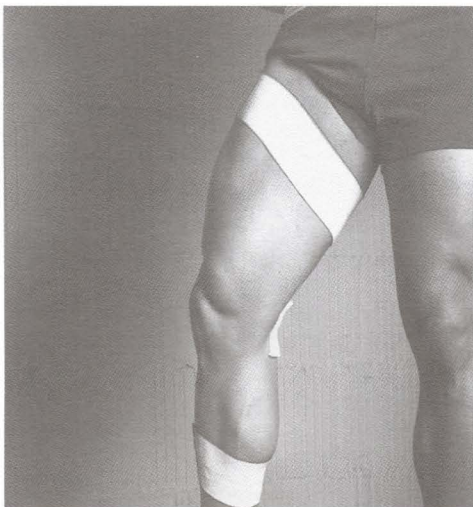
Supplies Needed: 1-1/2" adhesive tape, 3" elastic tape, and gauze with lubricant.

Pre-Taping Procedure:

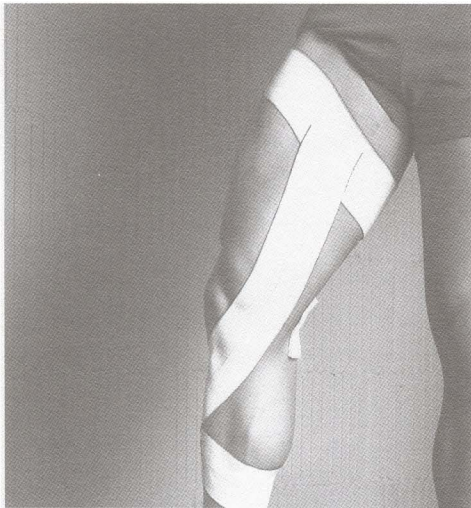


1. Gauze and lubricant should be applied to the posterior aspect (popliteal space) of the knee joint.
-

Taping Procedures:



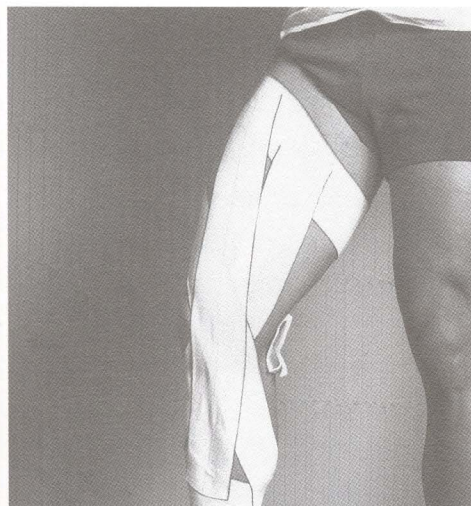
1. Apply two anchor strips of 3" elastic tape to the extremity. The proximal anchor strip should be placed at the mid-thigh or higher. The distal anchor should be applied at the mid-gastrocnemius region or lower. All collateral strips will attach on these two anchors.
-



2. Apply collateral "X" pattern to the knee's medial side. Using 3" elastic tape, start on the lateral aspect of the distal anchor, come below the patella, cross the medial joint line, and attach to the posterior-medial aspect of the proximal anchor.



3. The second strip begins on the posterior aspect of the distal anchor, crosses the medial joint line, and attaches to the anterior portion of the proximal anchor.



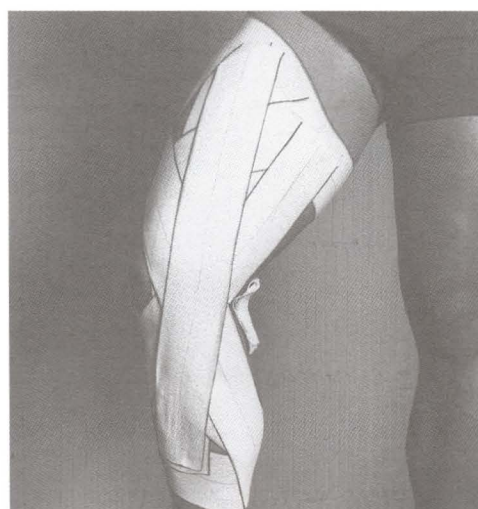
4. A third strip is applied vertically on the medial side. This support strip will begin on the distal anchor, cross the joint line, and attach to the proximal anchor.



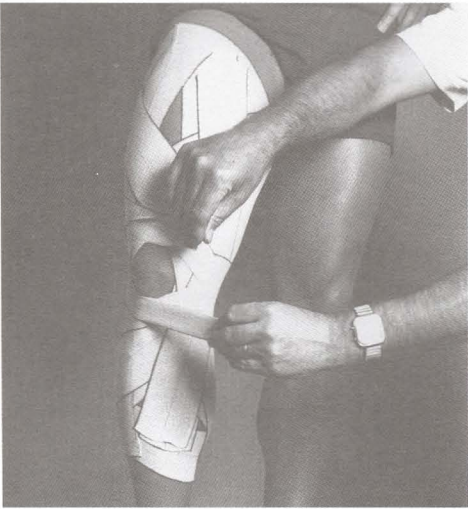
5. Apply collateral "X" pattern to the knees' lateral side. Using 3" elastic tape, start on the medial aspect of the distal anchor, come below the patella, cross the lateral joint line, and attach to the posterior-lateral aspect of the proximal anchor. The second strip begins on the posterior aspect of the distal anchor, crosses the lateral joint line and attaches to the anterior portion of the proximal anchor.



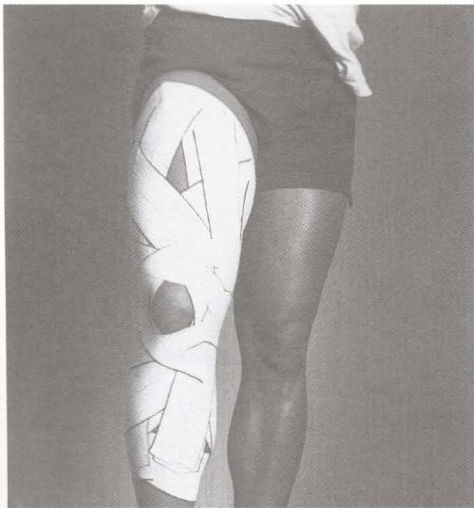
6. A third strip will be applied vertically on the lateral side. This support strip will begin on the distal anchor, cross the joint line, and attach to the proximal anchor.



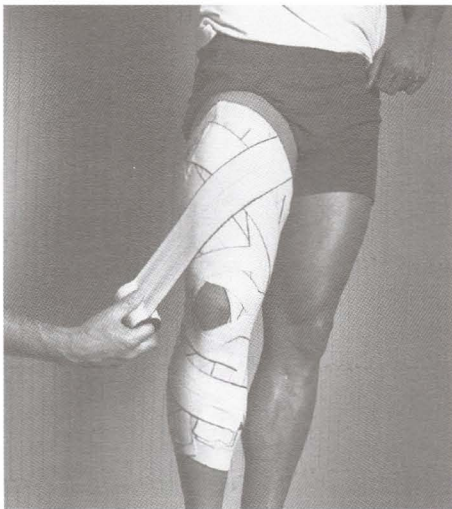
7. Depending on which collateral ligament of the knee is injured (medial or lateral), it is recommended that a second series of collateral strips be applied. At this time, you should repeat steps #2, #3 and #4.



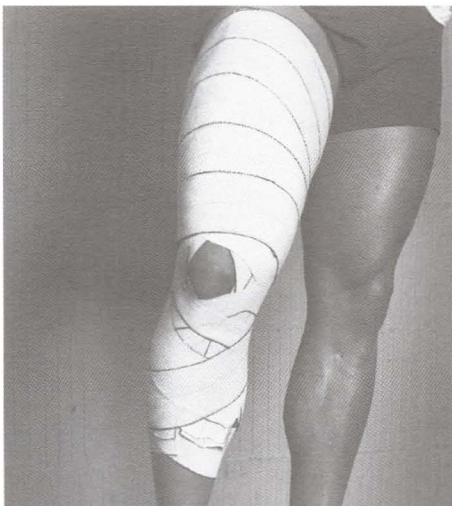
8. Next, apply a patella lock strip for support. Cut a strip of 3" elastic tape, 15-20 inches in length. Center this patella lock strip over the popliteal fossa. Split each end approximately four to six inches. Covering the joint line, the medial split ends are placed inferior and superior to the patella. The lateral split ends are applied in the same manner. The four split ends should form a diamond shape near the patella.



9. Two spiral strips are then applied to protect the popliteal fossa and to assist in preventing hyperextension. Using 3" elastic tape, begin on the anterior portion of the proximal anchor, and moving medially, spiral posteriorly, crossing the popliteal fossa, completing the strip on the anterior portion of the distal anchor.



10. Repeat this sequence a second time with the tape being applied laterally.



11. Final closure strips are then applied. Begin proximally and work distally. From the upper anchor, apply individual circular strips around the extremity to cover tape ends. Overlap the tape approximately one-half its width on each strip. Secure the elastic tape ends with anchors of 1-1/2" adhesive tape.

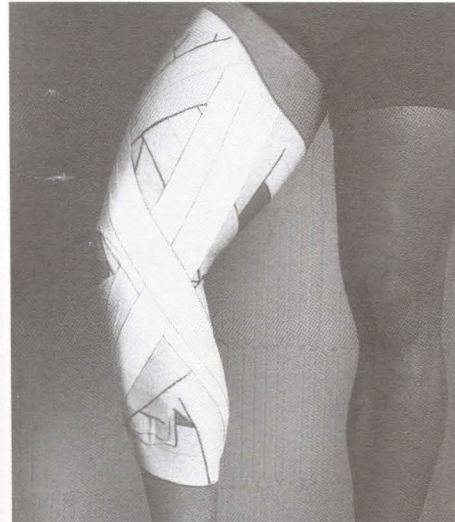




Adjunct Taping Procedure:
COLLATERAL KNEE

This adjunct taping procedure can be used in conjunction with the basic technique presented.

Technique A: Apply 1-1/2" adhesive tape over the collateral "X" patterns to provide additional support.



Hyperextended Knee

Purpose: To assist in prevention of knee joint hyperextension.

General Condition Procedure Used for: Hyperextension.

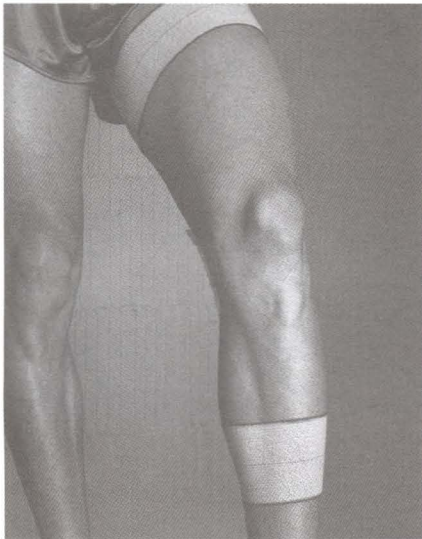
Anatomical Structure: Knee joint.

Anatomical Position: Knee joint placed in slight flexion.

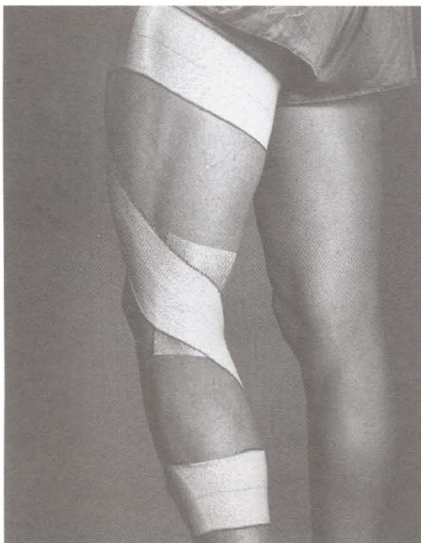
Supplies Needed: 1-1/2" adhesive tape, 3" elastic tape, and gauze with lubricant.

Pre-Taping Procedure: Apply the gauze with lubricant to the popliteal fossa of the knee joint.

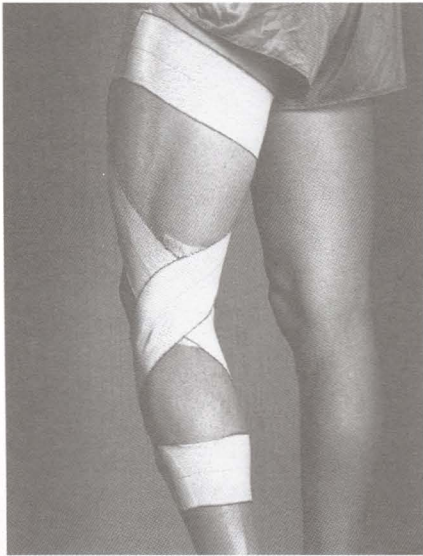
Taping Procedures:



1. Apply two anchor strips of 3" elastic tape to the extremity. The proximal anchor strip should be placed at the mid-thigh or higher. The distal anchor should be applied at the mid-gastrocnemius region or lower.



2. Using 3" elastic tape, begin on the anterior portion of the distal anchor, move laterally and spiral posteriorly, crossing the popliteal fossa, completing this strip on the anterior portion of the proximal anchor.

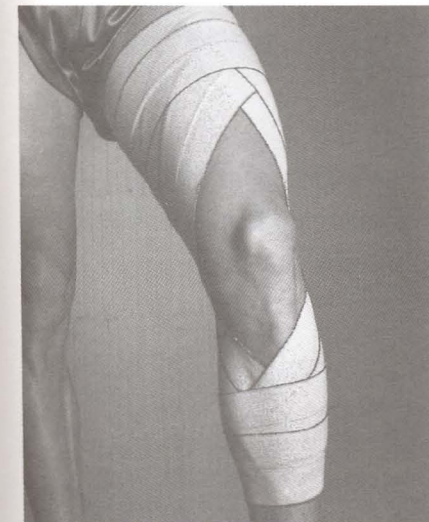


3. Using 3" elastic tape, begin on the anterior portion of the proximal anchor and moving medially, spiral posteriorly, crossing the popliteal fossa, and completing this strip on the anterior portion of the distal anchor.

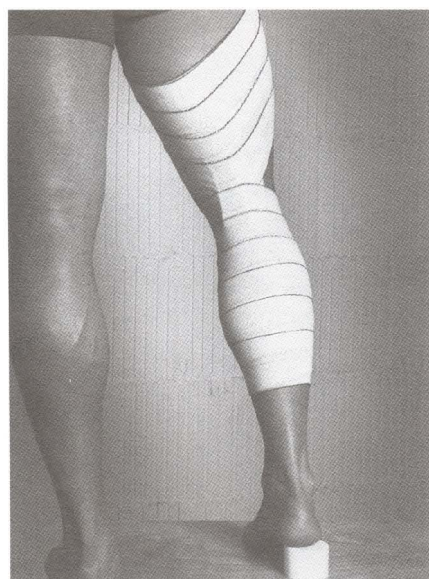
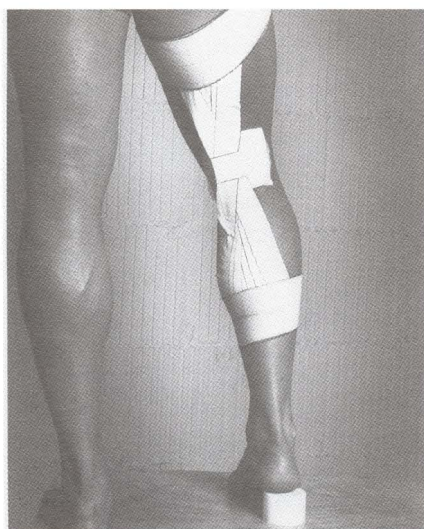
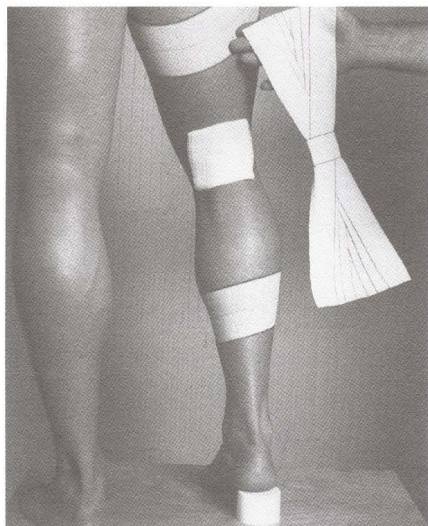


4. Apply a vertical strip, starting on the proximal anchor, cross the popliteal fossa, and end on the distal anchor.

Repeat steps #2, #3 and #4 a second time for additional support. Caution should be exercised when encircling the lower leg to avoid undue pressure on the musculature.



5. Then, final closure strips are applied. Begin proximally and work distally. From the upper anchor, apply individual circular strips around the extremity to cover tape ends. Make sure you overlap the tape approximately one-half its width on each strip. Secure the elastic tape ends with anchors of 1-1/2" adhesive tape.



Adjunct Taping Procedures: **HYPEREXTENDED KNEE**

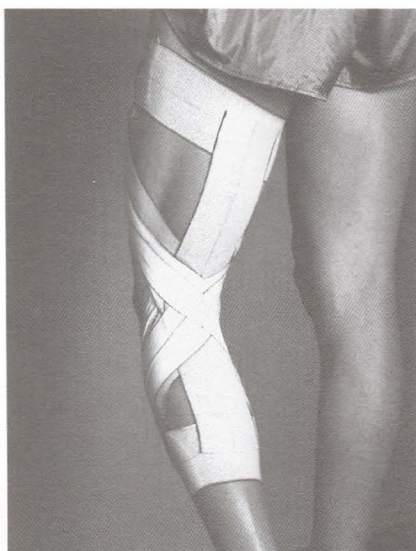
These adjunct taping procedures can be used in conjunction with the basic technique presented.

Technique A:

1. Using either adhesive or elastic tape, construct a five to seven strip butterfly (hour glass) pattern that will extend from the proximal to the distal anchors. Prior to application, place a strip of tape around the mid-portion of this support pattern.

2. Place this support on the proximal anchor, pull downward, and attach to the distal anchor.

3. Secure this technique with strips of elastic tape over the proximal and distal anchor. This technique should help restrict hyperextension of the knee joint.



Technique B: Apply 1-1/2" adhesive tape over the spiral strips to provide additional support.

Anterior Cruciate

Purpose: To provide support and stability to the knee's anterior cruciate ligament of the knee.

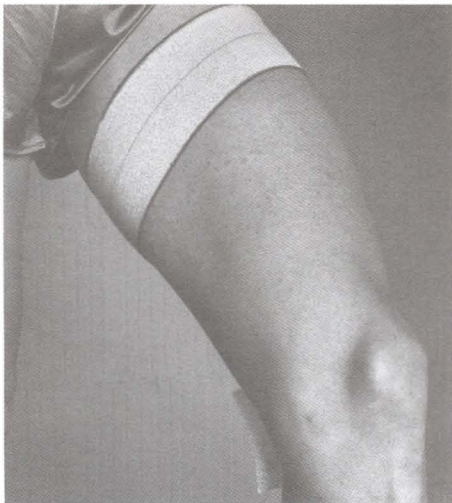
General Condition Procedure Used for: Sprain to anterior cruciate ligament.

Anatomical Structure: Knee.

Anatomical Position: Knee and hip joints should be positioned in slight flexion.

Supplies Needed: 1-1/2" adhesive tape, 3" elastic tape, and gauze with lubricant.

Pre-Taping Procedures:

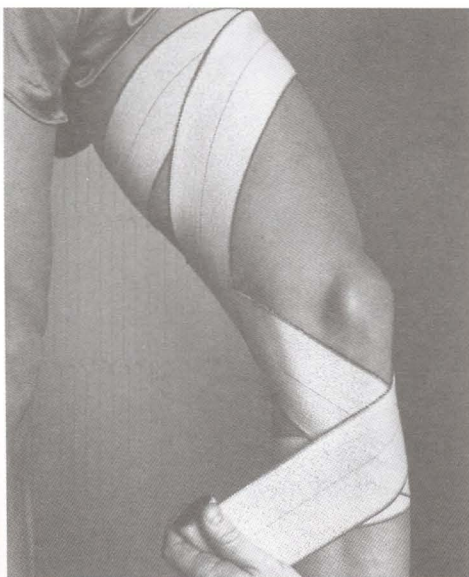


1. With the knee and hip joints in slight flexion, apply the gauze and lubricant to the posterior aspect of the knee joint. You should also apply an anchor strip of 3" elastic tape around the upper third of the thigh. Comment: In this pre-taping procedure, do not compress the popliteal fossa.

Taping Procedures:



1. Using 3" elastic tape, begin on the lower leg's lateral aspect, approximately 1" below the patella. Encircle the lower leg, move anteriorly, then medially, continuing to the posterior aspect and returning to the lateral side. Angle the tape below the patella, cross the medial joint line and popliteal fossa, and spiral up to the anterior portion of the upper thigh's anchor.



2. The next strip of 3" elastic tape will begin on the anterior aspect of the proximal anchor and cross the thigh's medial portion, covering the popliteal fossa, encircling the lower leg and crossing the popliteal fossa again. You will finish by spiraling up to the anterior aspect of the thigh's proximal anchor.



3. Repeat step #2. Secure this technique by applying 1-1/2" adhesive tape over the thigh's anchor.





2. The next strip of 3" elastic tape will begin on the anterior aspect of the proximal anchor and cross the thigh's medial portion, covering the popliteal fossa, encircling the lower leg and crossing the popliteal fossa again. You will finish by spiraling up to the anterior aspect of the thigh's proximal anchor.

3. Repeat step #2. Secure this technique by applying 1-1/2" adhesive tape over the thigh's anchor.

Patella Tendon

Purpose: To reduce stress on the patella tendon.

General Condition Procedure Used For: Patella tendinitis.

Anatomical Structure: Patella tendon.

Anatomical Position: Knee joint slightly flexed and muscles of lower leg relaxed.

Supplies needed: 1" adhesive tape.

Taping Procedures:



1. Apply your tape with direct pressure between the distal end of the patella and superior aspect of the tibial tuberosity. Encircle the lower leg: start on the lateral side, move anteriorly, then to the medial side, continue to the posterior aspect, and return to the lateral side.



2. Repeat step #1.



Adjunct Taping Procedure:
PATELLA TENDON TAPING

In conjunction with the basic procedure, use 1" or 2" elastic tape in a continuous procedure to add additional support.

Hip Pointer

Purpose: To provide support and protection to the contused tissue of the iliac crest.

General Condition Procedure Used For: Contusions and strains.

Anatomical Structure: Iliac crest.

Anatomical Position: Standing with slight lateral flexion of the waist to the affected side.

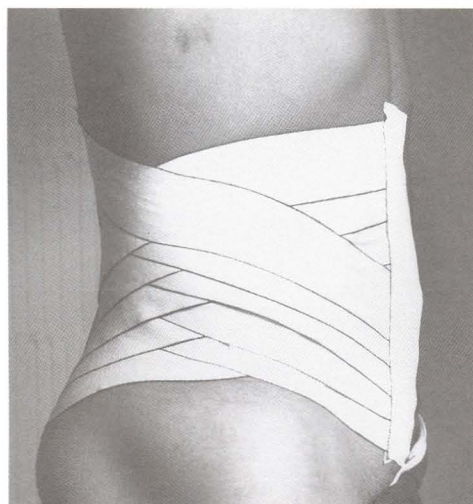
Supplies Needed: 1-1/2" adhesive tape, 3" elastic tape, 1/2" foam pad, and 6" extra long elastic wrap.

Pre-Taping Procedure: Cut a foam pad that will cover the affected area. In certain situations construct a doughnut pad that will relieve pressure on the affected area.

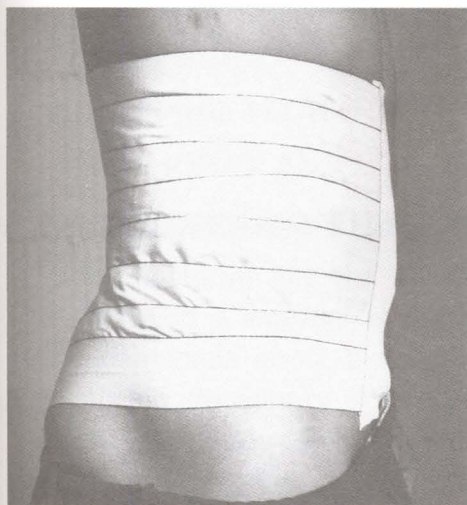
Taping Procedures:



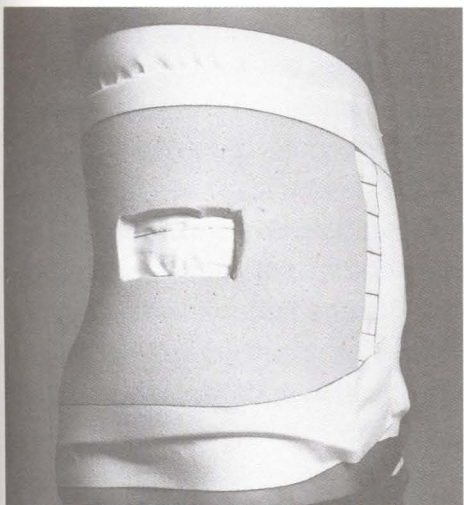
1. Apply two vertical anchor strips approximately four to six inches anteriorly and posteriorly to the affected area.



2. Apply the "X" pattern technique. Overlapping by one-half, beginning at the anterior aspect of the anchors and moving posteriorly until the entire crest of the hip is covered.



3. Apply horizontal strips, beginning on the superior anchor and moving inferiorly overlap by one-half until the entire area is covered.



4. The foam pad is placed over the affected area. This pad is held in place with two strips of adhesive tape.



5. The technique is then covered with an elastic wrap. A strip of elastic tape is applied over the wrap to secure the ends.

NOTE: Adjunct Taping Procedure: HIP POINTER

This adjunct taping procedure can be used in conjunction with the basic technique presented.

Technique A: Under certain situations the application of this hip flexor wrap is preferred. This wrap will encircle the complete thigh and waist region of the body. (Please refer to Hip Flexor Wrap)

Chapter 5

WRAPPING TECHNIQUES FOR THE THORAX AND LOW BACK

It is imperative that the health care professional develop a thorough knowledge regarding the fundamentals about the application of taping/wrapping procedures. It is recommended that Chapter 1 be reviewed before the application of any technique.

Assessing an Injury

Before applying the first piece of tape, a proper injury evaluation should be completed by a physician. Following injury evaluation, a qualified health care professional can then make recommendations concerning proper taping techniques. This helps insure that proper taping techniques are applied for support and stabilization. Also, it is imperative that the health care professional develop a thorough knowledge of taping application fundamentals.

Anatomical Graphics

The anatomy of the thorax and low back consist of the following structures. Please refer to the anatomical graphics on page 5-2 and 5-3.

BONES

Vertebral Column

- Cervical (7 vertebrae)
- Thoracic (12 vertebrae)
- Lumbar
- Sacrum
- Coccyx

Thorax

- Sternum
- Ribs

LIGAMENTS

Vertebral Column

- Anterior Longitudinal
- Posterior Longitudinal
- Supraspinous
- Interspinous
- Intertransverse

MUSCLES

Back

- Serratus Posterior
- Erector Spinae
- Transversospinalis
- Quadratus Lumborum

Torso

- Transversus Abdominis
- Rectus Abdominis
- Internal Oblique
- External Oblique
- Iliopsoas
- Intercostals (not shown)
- Diaphragm

Purpose and Application of Adhesive and Elastic Tape

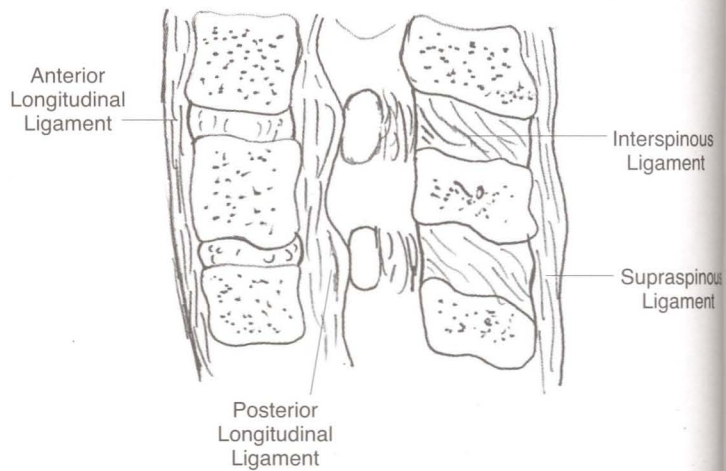
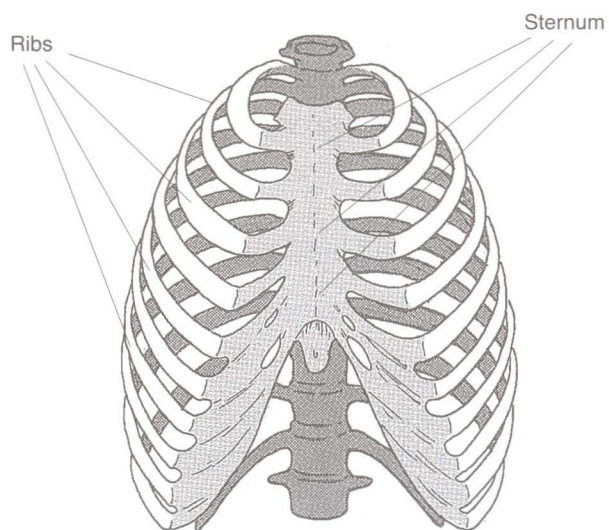
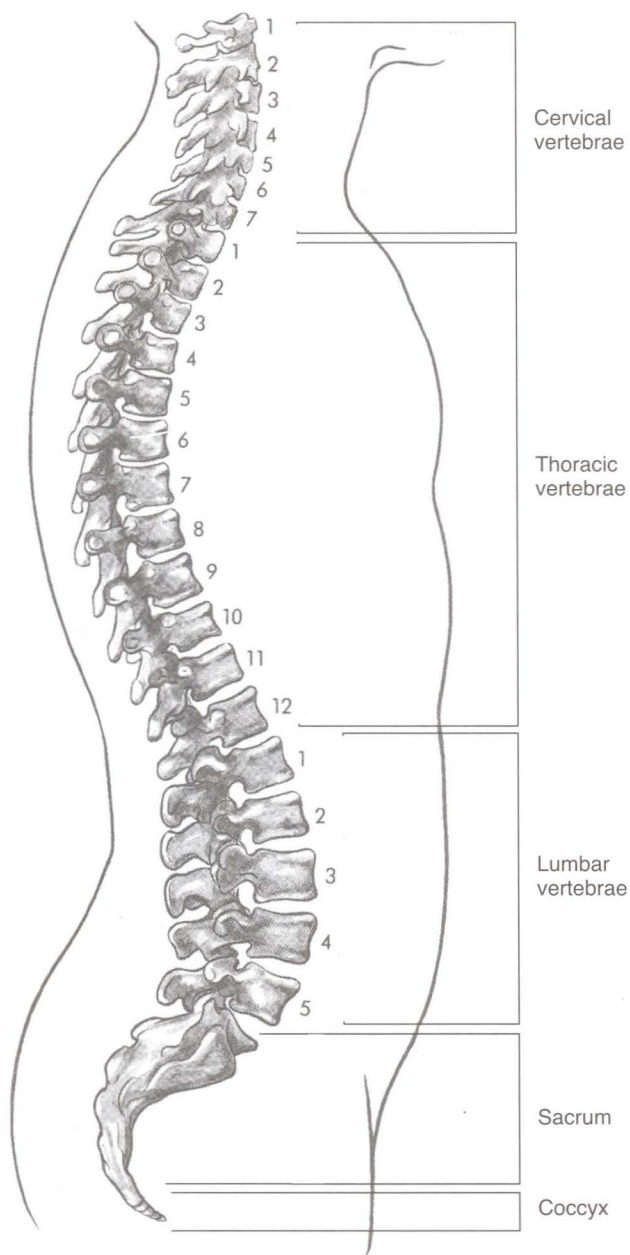
The primary purpose for tape application is to provide additional support and stability for the affected body part. Through proper application, taping techniques can be applied to shorten the muscles angle of pull, decrease joint range of motion, secure pads, bandages and protective devices, and to apply compression to aid in swelling reduction.

To tear tape, the adhesive tape is held firmly on each side of the proposed tear line. With proper tension applied on the tape, the free end is pulled away at an angle so that the force crosses the lines of the fabric of the backcloth at a sharp angle. The tear then occurs sequentially through the backcloth. The more quickly this maneuver is done, the more evenly tape edges will be torn. Some brands of elastic tape are extremely hard to tear by hand. Cut those brands with scissors to insure proper tape application and neatness.

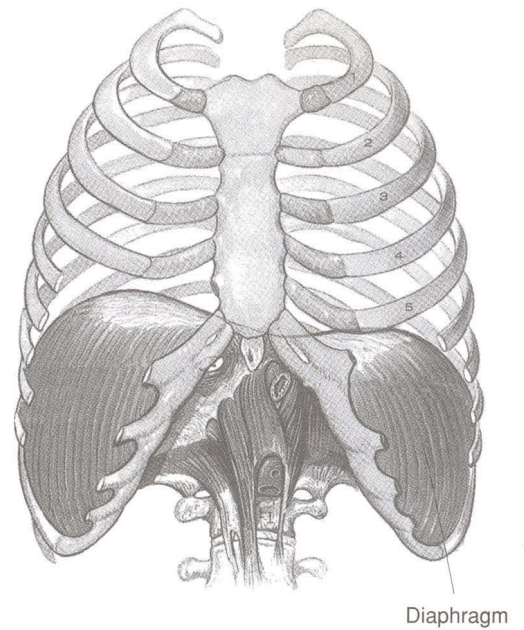
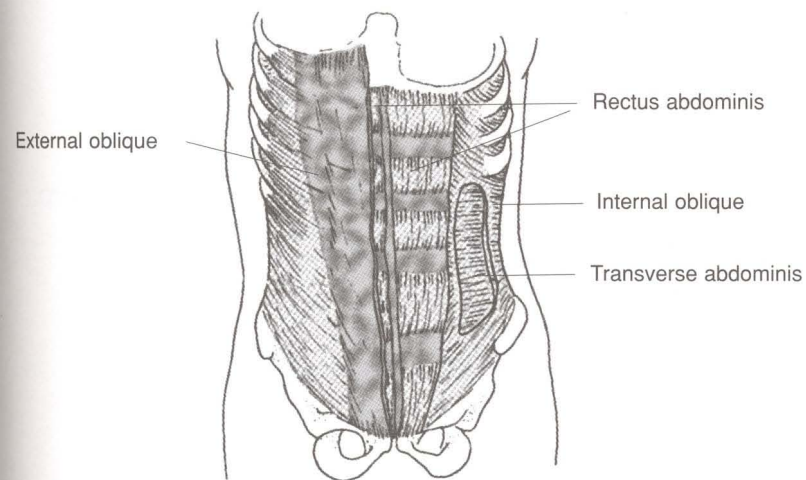
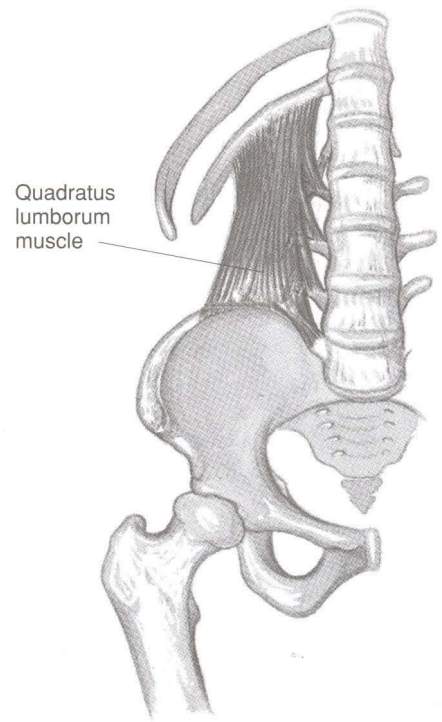
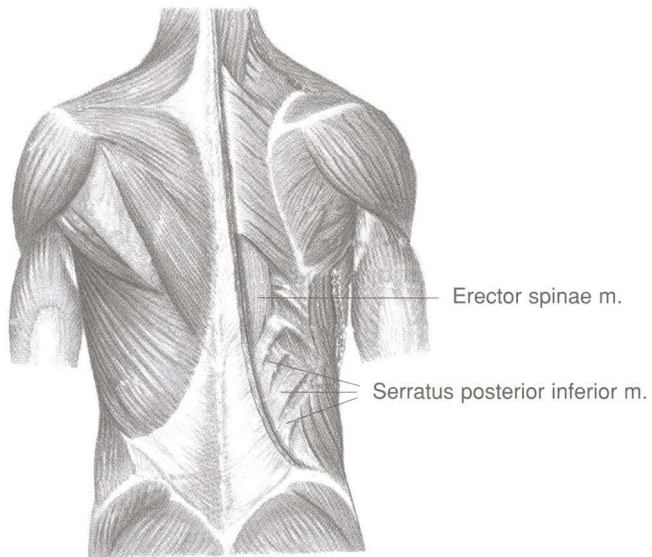
Selection of Athletic Training Supplies and Specialty Items

One of the most critical aspects of taping techniques is the selection of proper supplies. Your selection depends on the number and types of sports offered and frequency of injury. Purchasing supplies depend on budget, philosophy of medical staff regarding taping techniques, and occurrence of injury. Special consideration must be given to these additional supplies: benzoin (spray adherent),

ANATOMICAL GRAPHICS



ANATOMICAL GRAPHICS



Common Terminology

Cervical - of the neck, specifically the seven vertebrae in the neck.

Coccyx - the four rudimentary bones at the lowest end of the backbone, the vestigial human tail.

Lumbar - vertebral column extending from the twentieth through the twenty-fourth vertebrae (low back).

Sacrum - a curved triangular element of the backbone.

Thoracic - portion of vertebral column extending from the eighth through the nineteenth vertebrae (upper back).

adhesive versus elastic tape, width of adhesive and elastic tape, and length and width of elastic wraps.

In this text, tape terminology used will be adhesive tape or elastic tape. The adhesive tape is traditionally marketed as non-elastic, white tape. Elastic tape provides greater freedom of mobility to the affected body part, and is marketed as elastic tape. Both adhesive and elastic tapes are produced in a variety of widths (Adhesive Tape Widths: 1/2", 1", 1-1/2", 2"; Elastic Tape Widths: 1", 2", 3", 4".)

The terminology for elastic wrap is defined as a woven fabric that also allows for expansion and contraction, in which either compression or supportive techniques can be utilized. This product is typically produced in 1, 2, 3, 4, and 6 inch widths. In certain situations, an extra long length is more desirable.

In the preparation of some body parts, skin protection must be considered to achieve proper pre- and post-activity care. A medicated ointment and garment barrier are used in open wound protection. Additional skin protection can be provided, when needed, with BAND-AID (a registered trademark of Johnson & Johnson), gauze, adhesive felt, underwrap, heel and lace pads, and spray adherent. Additionally, felt and foam rubber can be used to protect the affected body part.

Sports Specific Rules on Taping

If you apply supportive techniques to an athlete, you should be cognizant of specific rules

governing tape application in that particular sport. Your application must fall within the guidelines established for each sport by appropriate governing bodies.

Special Techniques - Adjunct Taping Procedures

The taping techniques presented are fundamental procedures. Adjunct techniques will be shown to provide additional support, however, the fundamental procedures should still be followed. Variations can be achieved by adapting these techniques to a particular injury situation. Always give special consideration to:

- purpose of the taping procedure
- general condition procedure used for
- correct anatomical position
- proper supply selection.

Preparation of Body Part for Taping

In preparing the body for tape application, consider these six items:

1. Removal of Hair
2. Clean the Area
3. Special Considerations
4. Spray Adherent
5. Skin Lubricants
6. Underwrap

Proper Body Positioning

Before beginning any taping procedure, select a comfortable table height and ask the athlete to assume an anatomically correct and comfortable

position. During the application of these procedures, instruct the athlete to contract the muscle groups. Neutral position of Hip: Depending on the particular area affected, position the hip so that you have shortened the length of the muscle groups involved. Position yourself in a good postural alignment to minimize strain and fatigue.

TAPING TECHNIQUES

The taping techniques presented in this text are the fundamental procedures. A strong knowledge of anatomy is essential. To increase your knowledge in anatomy, please consult the texts listed at the end in Appendix B.

Musculoskeletal Disorders

The following is a list of common musculoskeletal disorders, for which taping/wrapping techniques can be applied. Consult with either *Tabers Cyclopedic Medical Dictionary* or *Signs and Symptoms of Athletic Injuries* for an accurate definition of these terms.

Thorax:

- Brachial Plexus Stretch
- Chondrosternal Sprain
- Contusion
- Costovertebral Sprain
- Sprain
- Strain

Low Back:

- Contusion
- Sprain
- Strain

Rib

Purpose: To provide support and compression to the ribs.

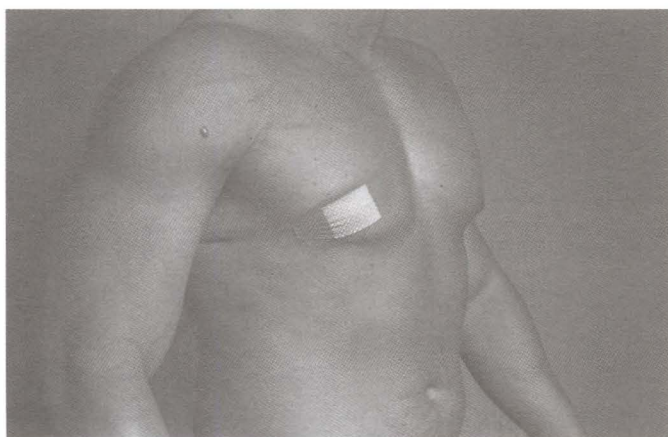
General Conditions Procedure Used for: Contusion and strains.

Anatomical Structure: Thoracic cavity.

Anatomical Position: Standing upright, the arm on the affected side abducted.

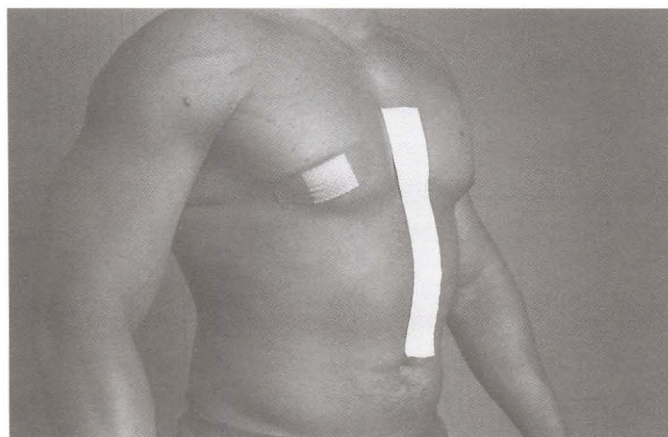
Supplies Needed: 1-1/2" adhesive tape, 4" or 6" extra long elastic wrap, gauze pad or large BAND-AID™, and 2" or 3" elastic tape.

Pre-taping Procedure:

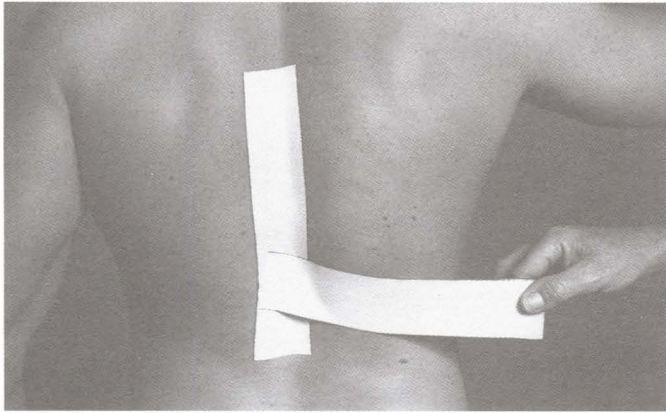


1. Cover the nipple with either gauze pad or a BAND-AID™.
-

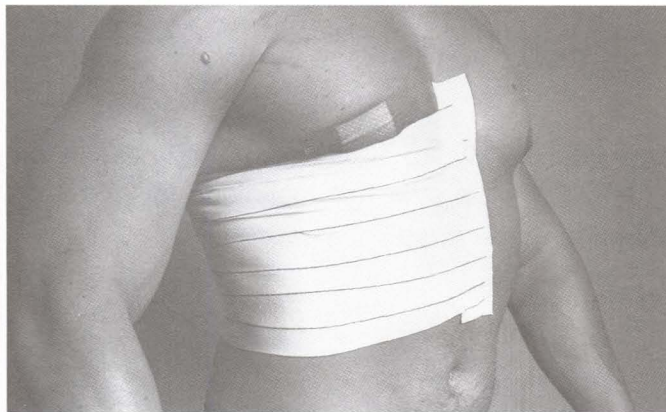
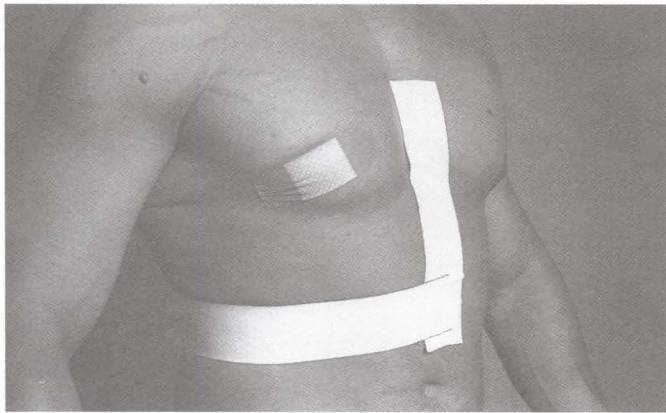
Taping Procedures:



1. On the uninjured side, apply two vertical anchor strips near the anterior and posterior mid-line of the body.
-



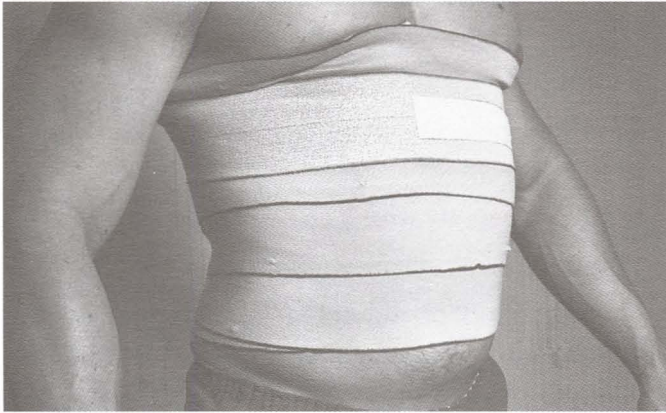
2. A strip of adhesive tape begins on the distal aspect of the posterior anchor, follows the contour of the ribs and ends on the distal aspect of the anterior anchor. When applying the tape, have the person inhale.



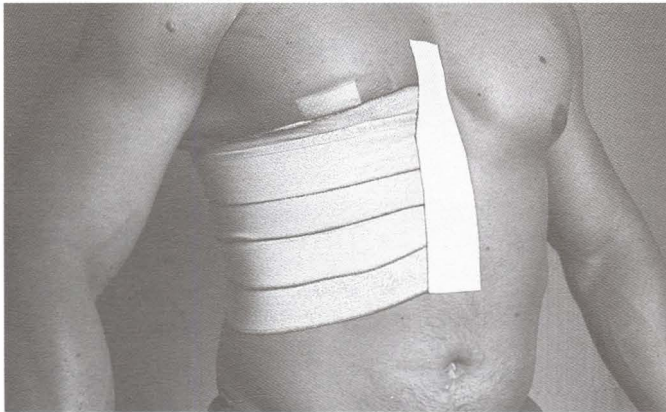
3. Repeat step #2, applying six to eight strips of adhesive tape. Overlap the tape by one-half its width. Begin inferiorly and work superiorly.



4. Apply a 4" or 6" extra-long elastic wrap over the top. With the chest expanded, the wrap is applied in a circular manner around the torso, beginning inferiorly and working superiorly.



5. Secure the wrap a continuous strip of elastic tape. Anchor the elastic tape with adhesive tape.



Adjunct Taping Procedures:

RIB

These adjunct taping procedures can be used in conjunction with the basic technique presented.

Technique A: Use 3" elastic tape in place of the adhesive tape.



Technique B: The "X" pattern technique. Apply the wrap over this technique for additional support of the torso.



Technique C: Use foam rubber to pad the affected area for additional protection.

Low Back

Purpose: To provide support to the low back.

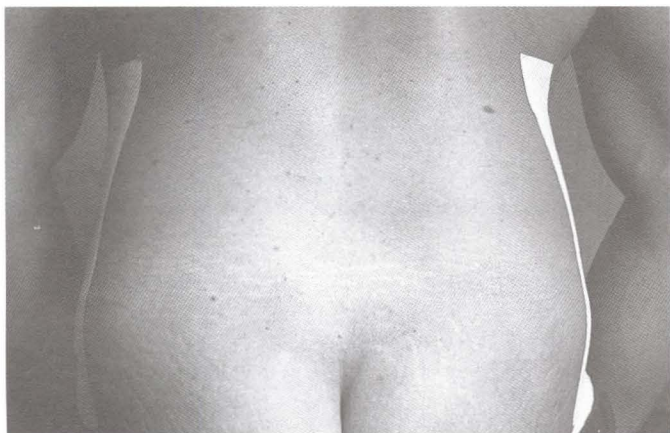
General Conditions Procedure Used For: Sprains, strains and contusions.

Anatomical Structure: Low back (lumbar and sacral).

Anatomical Position: Standing position, knees and waist slightly flexed.

Supplies Needed: 1-1/2" or 2" adhesive tape and 6" extra long elastic wrap.

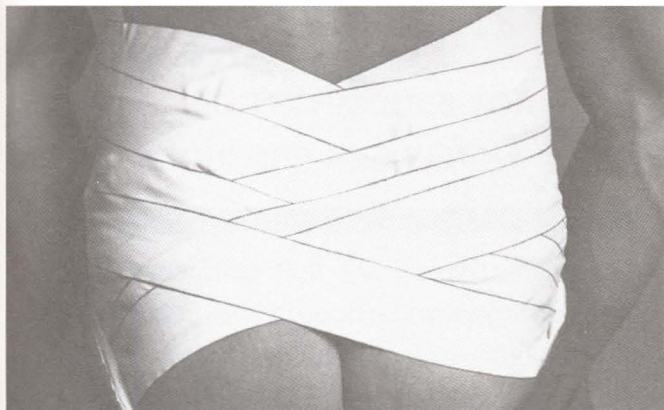
Taping Procedures:



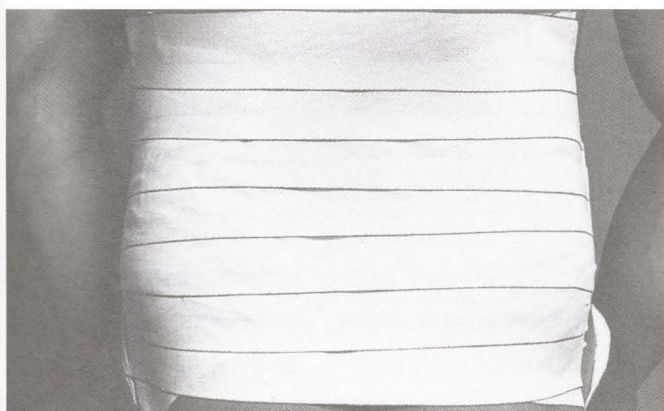
1. Apply two vertical anchor strips, approximately four to six inches in length, over the lateral sides of the torso.



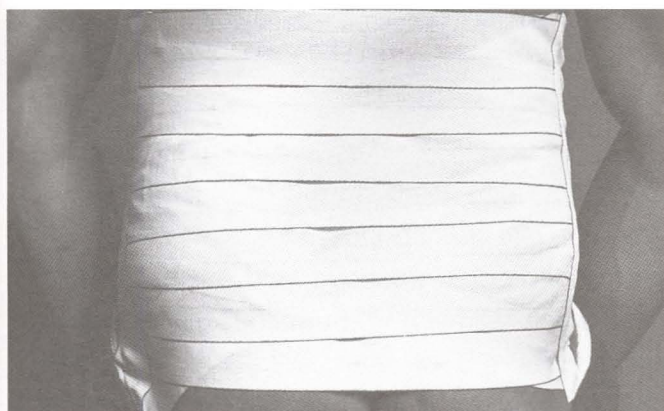
2. Apply the "X" pattern technique. Begin at the distal aspect of one anchor, cross the affected area, and end on the opposite anchor. The second strip is applied in the same pattern beginning from the opposite anchor.



3. Repeat step #2, seven to nine times, overlapping the tape by one-half its width.



4. Now apply parallel strips, working inferior to superior, until the affected area is covered. Overlap each strip by one-half its width.



5. A final anchor is placed over each original anchor to help hold the tape in place.



6. In a circular fashion, apply the elastic wrap around the waist. Secure the wrap with a strip of adhesive tape.

Chapter 6

WRAPPING TECHNIQUES FOR THE SHOULDER AND ELBOW

It is imperative that the health care professional develop a thorough knowledge regarding the fundamentals about the application of taping/wrapping procedures. It is recommended that Chapter 1 be reviewed before the application of any technique.

Assessing an Injury

Before applying the first piece of tape, a proper injury evaluation should be completed by a physician. Following injury evaluation, a qualified health care professional can then make recommendations concerning proper taping techniques. This helps insure that proper taping techniques are applied for support and stabilization. Also, it is imperative that the health care professional develop a thorough knowledge of taping application fundamentals.

Anatomical Graphics

The anatomy of the shoulder and elbow will consist of all structures around these two anatomical structures. A brief overview of the bones and ligaments will be followed by a similar section on the muscles. Please refer to the anatomical graphics on page 6-2 and 6-3.

Bones

- Sternum
- Clavicle
- Scapula, or shoulder blade
- Humerus
- Radius
- Ulna

Ligaments

- Sternoclavicular
- Acromioclavicular
- Coracoclavicular
- Glenohumeral
- Ulnar Collateral
- Radial Collateral
- Annular

Muscles

- Brachialis
- Biceps
- Coracobrachialis
- Deltoid
- Infraspinatus
- Latissimus dorsi
- Levator scapulae
- Pectoralis major
- Pectoralis minor (not shown)
- Rhomboids (not shown)
- Serratus anterior (not shown)
- Subscapularis (not shown)
- Supraspinatus (not shown)
- Teres major (not shown)
- Teres minor (not shown)
- Trapezius
- Triceps

Purpose and Application of Adhesive and Elastic Tape

The primary purpose for tape application is to provide additional support and stability for the affected body part. Through proper application, taping techniques can be applied to shorten the muscles angle of pull, decrease joint range of

Common Terminology

Axilla - arm pit.

Cubital fossa - triangular area on the anterior aspect of the forearm directly opposite the elbow joint (the bend of the elbow).

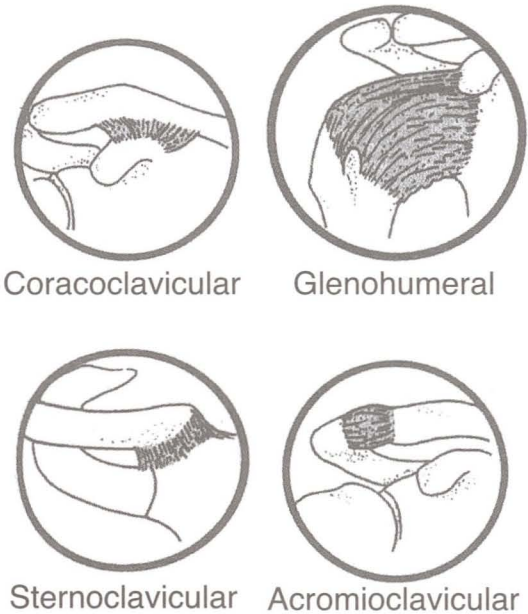
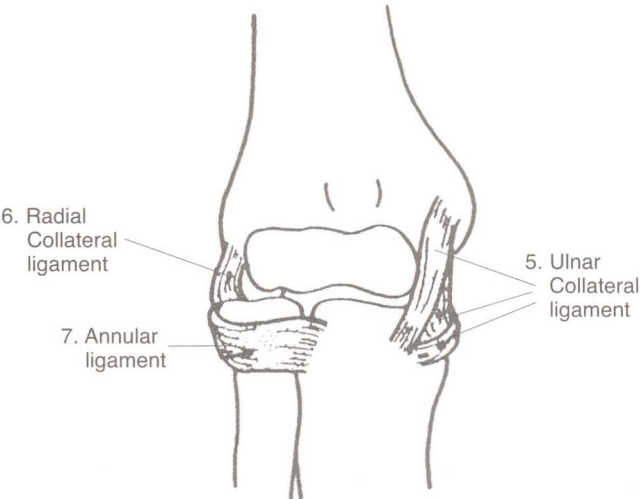
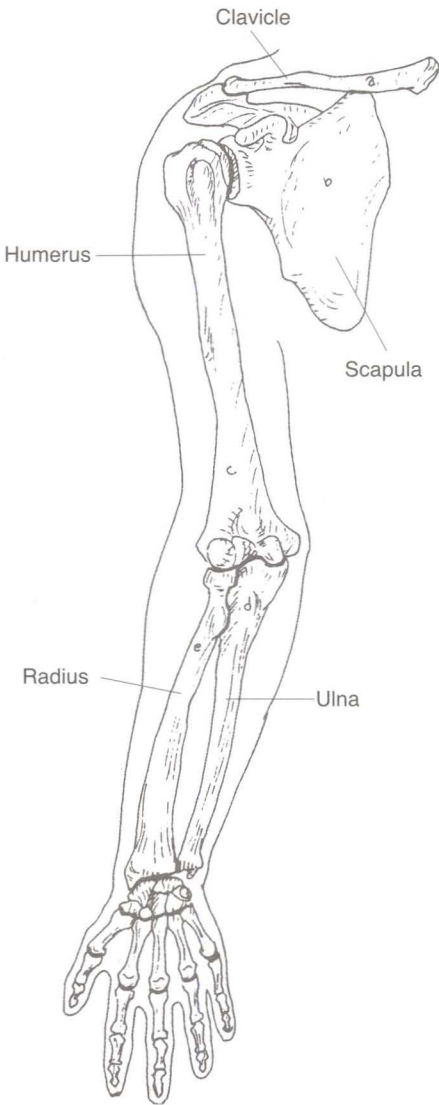
Dorsum - the back side of the hand.

Joint subluxation - partial displacement of the articular surfaces.

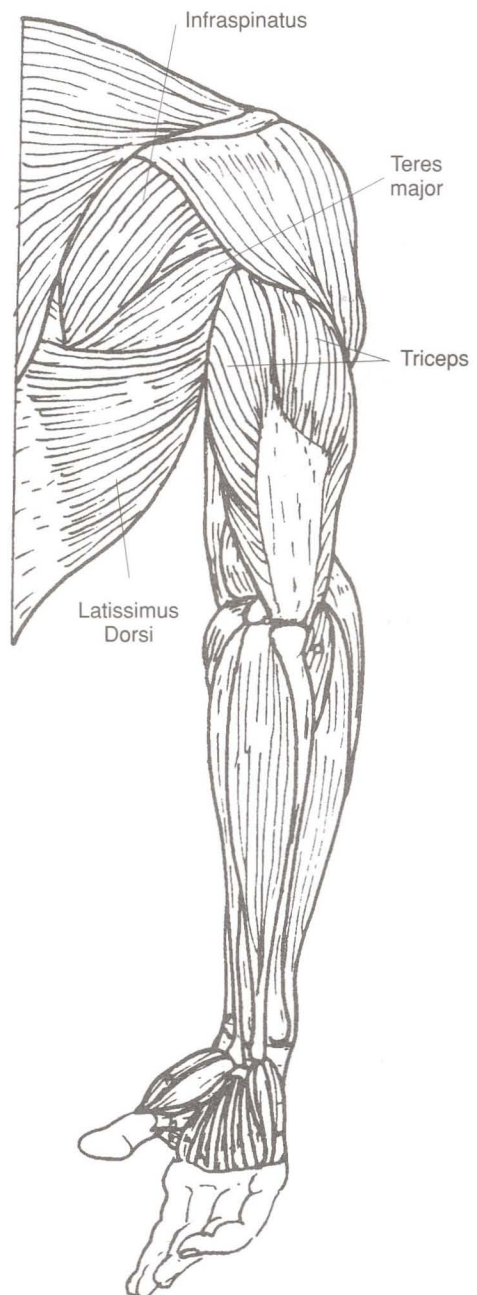
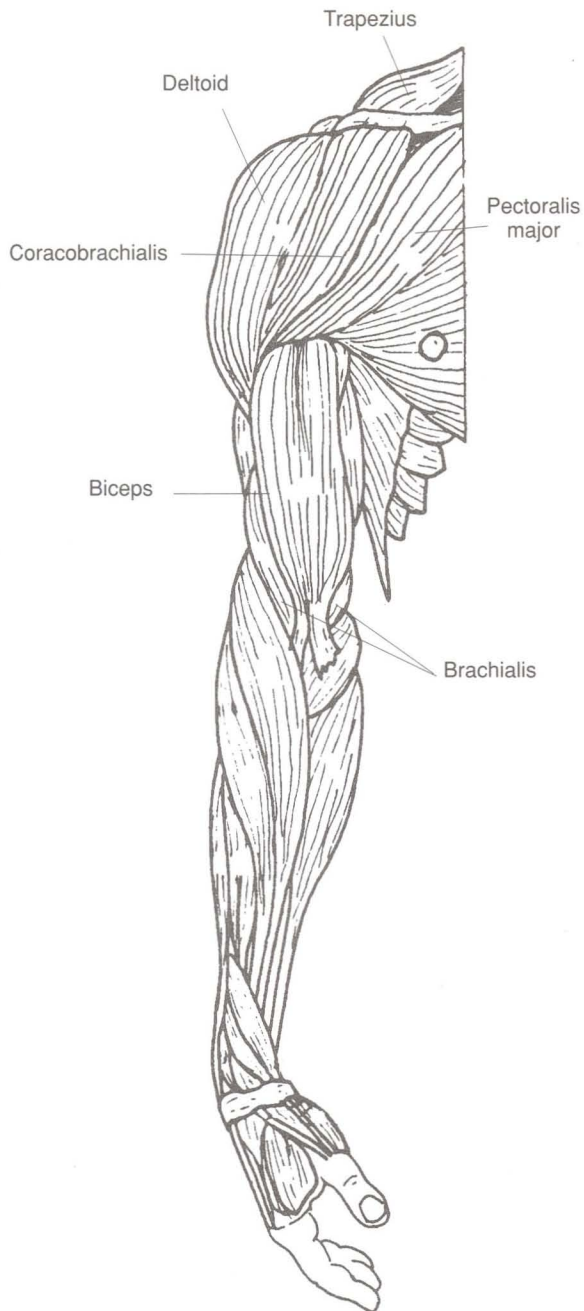
Palmar - ventral aspect of the hand (palm of the hand).

Volar - ventral aspect of the hand (more commonly used when describing the fingers).

ANATOMICAL GRAPHICS



ANATOMICAL GRAPHICS



motion, secure pads, bandages and protective devices, and to apply compression to aid in swelling reduction.

To tear tape, the adhesive tape is held firmly on each side of the proposed tear line. With proper tension applied on the tape, the free end is pulled away at an angle so that the force crosses the lines of the fabric of the backcloth at a sharp angle. The tear then occurs sequentially through the backcloth. The more quickly this maneuver is done, the more evenly tape edges will be torn. Some brands of elastic tape are extremely hard to tear by hand. Cut those brands with scissors to insure proper tape application and neatness.

Selection of Athletic Training Supplies and Specialty Items

One of the most critical aspects of taping techniques is the selection of proper supplies. Your selection depends on the number and types of sports offered and frequency of injury. Purchasing supplies depend on budget, philosophy of medical staff regarding taping techniques, and occurrence of injury. Special consideration must be given to these additional supplies: benzoin (spray adherent), adhesive versus elastic tape, width of adhesive and elastic tape, and length and width of elastic wraps.

In this text, tape terminology used will be adhesive tape or elastic tape. The adhesive tape is traditionally marketed as non-elastic, white tape. Elastic tape provides greater freedom of mobility to the affected body part, and is marketed as elastic tape. Both adhesive and elastic tapes are produced in a variety of widths (Adhesive Tape Widths: 1/2", 1", 1-1/2", 2"; Elastic Tape Widths: 1", 2", 3", 4".)

The terminology for elastic wrap is defined as a woven fabric that also allows for expansion and contraction, in which either compression or supportive techniques can be utilized. This product is typically produced in 1, 2, 3, 4, and 6 inch widths.

In certain situations, an extra long length is more desirable.

In the preparation of some body parts, skin protection must be considered to achieve proper pre- and post-activity care. A medicated ointment and garment barrier are used in open wound protection. Additional skin protection can be provided, when needed, with BAND-AID (a registered trademark of Johnson & Johnson), gauze, adhesive felt, underwrap, heel and lace pads, and

Musculoskeletal Disorders

The following is a list of common musculoskeletal disorders, for which taping/wrapping techniques can be applied. Consult with either *Taber's Cyclopedic Medical Dictionary* or *Signs and Symptoms of Athletic Injuries* for an accurate definition of these terms.

Shoulder and Upper Arm

- Blockers exostosis
- Bursitis
- Contusion
- Dislocation
- Nerve Injury
- Rotator Cuff Strain
- Separation
- Sprain
- Strain
- Subluxation
- Synovitis
- Tendinitis
- Tenosynovitis

Elbow and Forearm

- Contusion
- Dislocation
- Epicondylitis
- Forearm Splints
- Hyperextension
- Nerve Injury
- Olecranon Bursitis
- Sprain
- Ulnar Nerve Contusion

spray adherent. Additionally, felt and foam rubber can be used to protect the affected body part.

Sports Specific Rules on Taping

If you apply supportive techniques to an athlete, you should be cognizant of specific rules governing tape application in that particular sport. Your application must fall within the guidelines established for each sport by appropriate governing bodies.

Special Techniques - Adjunct Taping Procedures

The taping techniques presented are the fundamental procedures. Adjunct techniques will be shown to provide additional support, however, the fundamental procedures should still be followed. Variations can be achieved by adapting these techniques to a particular injury situation. Always give special consideration to:

- purpose of the taping procedure
- general condition procedure used for
- correct anatomical position
- proper supply selection.

Preparation of Body Part for Taping

In preparing the body for tape application, consider these six items:

1. Removal of Hair
2. Clean the Area
3. Special Considerations
4. Spray Adherent
5. Skin Lubricants
6. Underwrap

Proper Body Positioning

Before beginning any taping procedure, select a comfortable table height and ask the athlete to assume an anatomically correct and comfortable position. Neutral Position of Shoulder: In the standing position, have the athlete place the dorsum of the hand, of the affected side, with the finger tips crossing the midline of the body at the low back region. Neutral Position of Elbow: From the anatomical position, the elbow joint should be held in slight flexion (10-15 degrees). Position yourself in a good postural alignment to minimize strain and fatigue.

TAPING TECHNIQUES

The taping techniques presented are the fundamental procedures. A strong knowledge of anatomy is essential. To increase your knowledge in anatomy, please consult the texts listed at the end in Appendix B.

NOTE: Wrapping Techniques for Support and Compression

Chapter 2 of the text covers specific procedures related to wrapping techniques. The following procedures are detailed in Chapter 2.

Wrapping Technique for Support

- Glenohumeral Joint

Wrapping Technique for Compression

- Elbow

Acromioclavicular Joint

Purpose: To provide support and stabilization to the acromioclavicular (AC) joint.

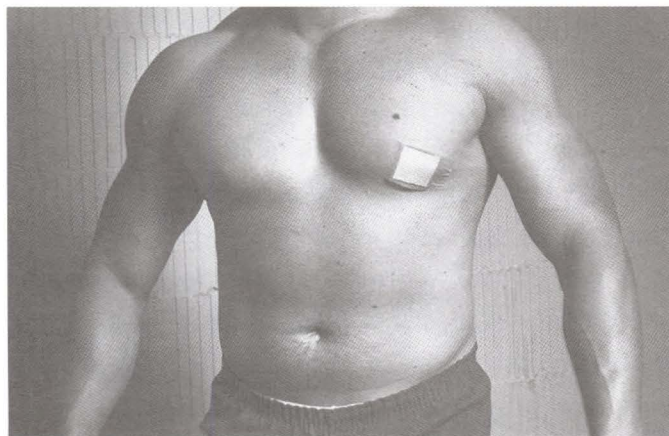
General Conditions Procedure Used for: Sprains and contusions.

Anatomical Structure: Acromioclavicular joint of the shoulder.

Anatomical Position: The athlete should be in a standing position with shoulder abducted, elbow flexed, hand on waist, and chest slightly expanded.

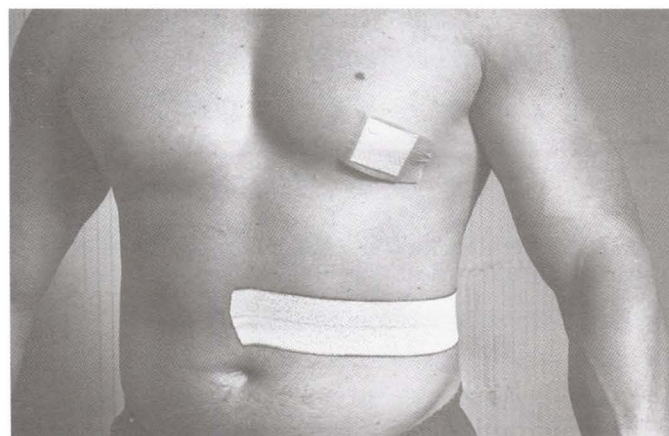
Supplies Needed: 2" elastic tape, 1-1/2" adhesive tape, and gauze pad or large BAND-AID™.

Pre-taping procedures:

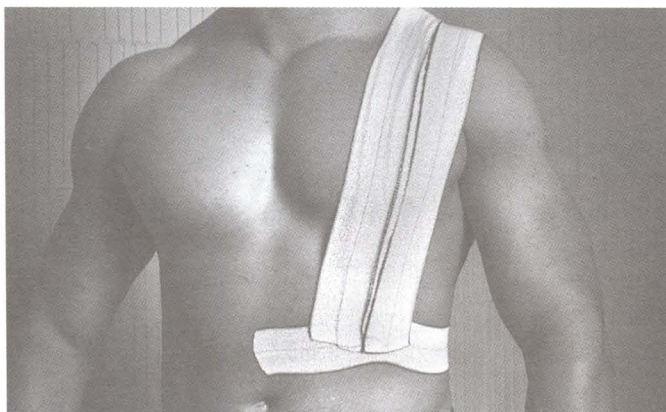
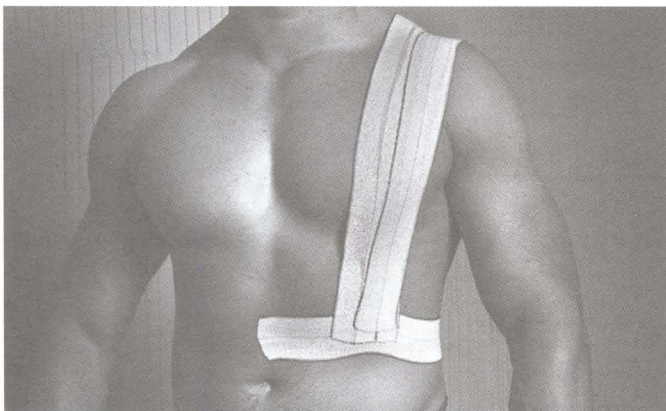
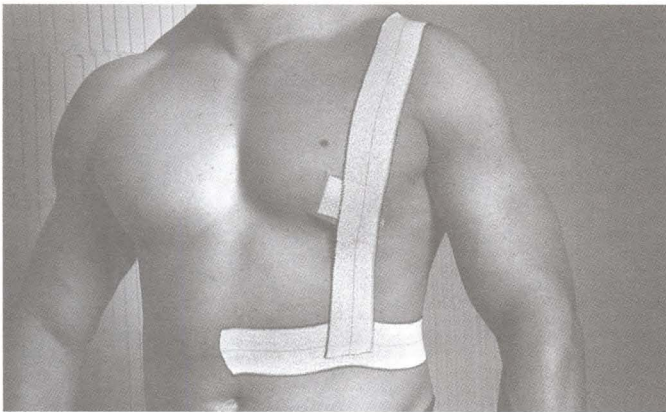


-
1. Place the gauze pad or BAND-AID™ over the nipple of the affected side.

Taping Procedures:

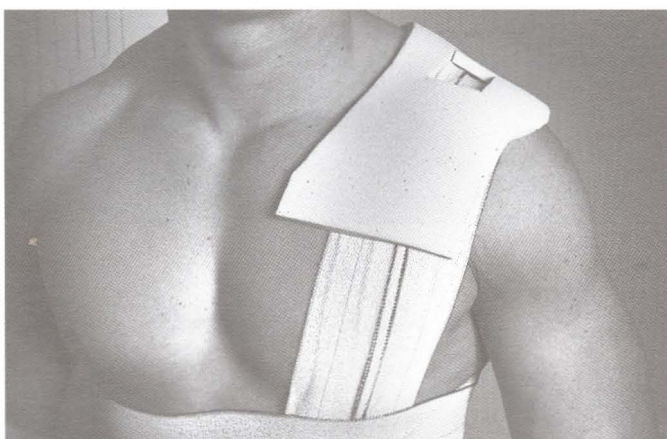
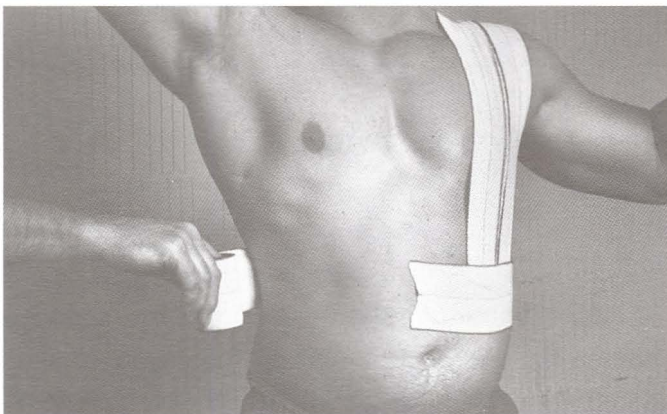


-
1. Utilizing 2" elastic tape, place a horizontal anchor strip from the anterior to the posterior body mid-line. This anchor strip should cover the mid or lower portion of the rib cage.
-



2. Measure the distance from the anterior portion of the anchor across the AC joint and ending on the posterior anchor. Apply a strip of 1-1/2" adhesive tape or 2" elastic tape to this area. With the middle of the tape placed on the AC joint, apply equal tension toward both the anterior and posterior ends and attach tape to the anchor.

3. Repeat step #2 three times.



4. To add additional support, apply a second horizontal anchor strip encircling the body's torso.

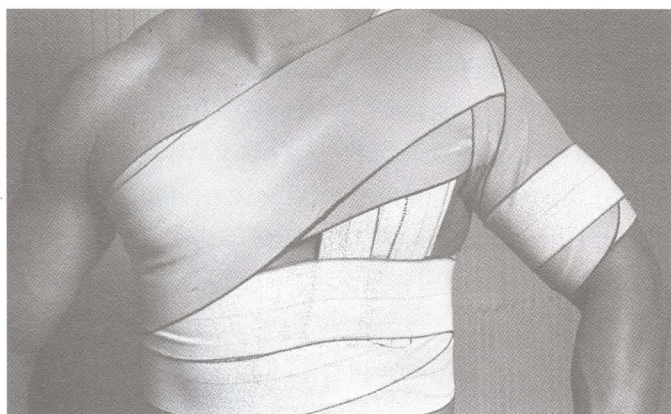
Adjunct Taping Procedures: **ACROMIOCLAVICULAR JOINT TAPING**

These adjunct taping procedures can be used in conjunction with the basic technique presented.

Technique A:

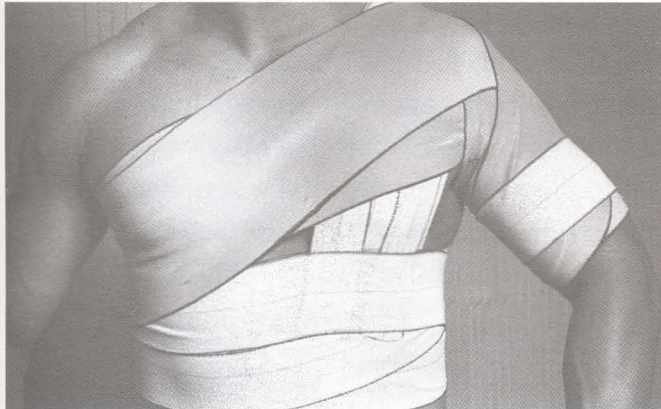
1. For additional protection to the AC joint, construct a felt or foam rubber pad that is at least 1/2" thick. The pad must be large enough to cover the affected superior aspect of the shoulder. Cut a hole in this protective pad and place over the affected AC joint.

2. To secure this pad, apply 2" elastic tape over the AC joint.
-



3. Using a 6" extra long, elastic wrap, apply a shoulder spica wrap to this area to hold in place. Begin on the posterior aspect of the upper arm, move anteriorly, encircle the arm, continue across the anterior aspect of the chest, under the opposite arm, across the posterior aspect of the torso angling upward and over the affected AC joint, and encircling the upper arm. Repeat this procedure a second time. Secure the wrap with 2" elastic tape.

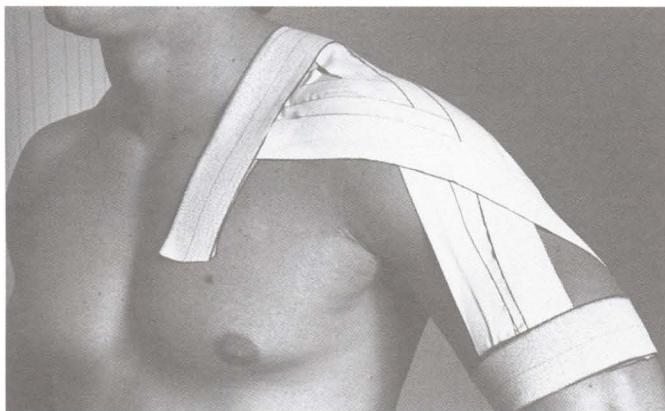
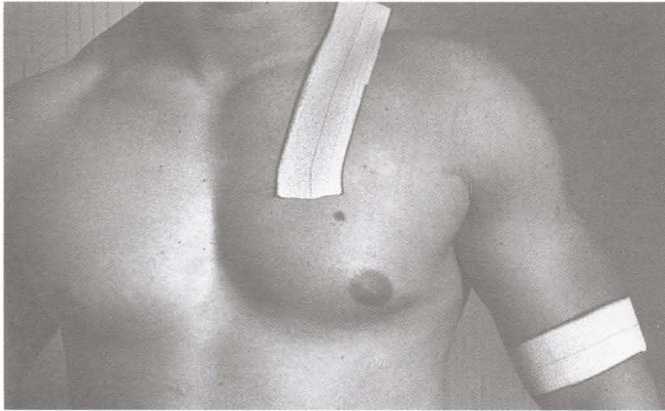
NOTE: When taping the FEMALE ATHLETE, apply this procedure the same, however, the horizontal strips should end above the breast.



3. Using a 6" extra long, elastic wrap, apply a shoulder spica wrap to this area to hold in place. Begin on the posterior aspect of the upper arm, move anteriorly, encircle the arm, continue across the anterior aspect of the chest, under the opposite arm, across the posterior aspect of the torso angling upward and over the affected AC joint, and encircling the upper arm. Repeat this procedure a second time. Secure the wrap with 2" elastic tape.



NOTE: When taping the FEMALE ATHLETE, apply this procedure the same, however, the horizontal strips should end above the breast.



Technique B: Apply an anchor of 2" elastic tape around the distal aspect of the biceps muscle. This pattern is applied from the distal anchor (biceps), crosses the AC joint, and attaches to the support strips on the superior aspect of the chest. Comment: This technique can also be used to hold a pad in place. Apply the "X" pattern utilizing either 1-1/2" adhesive tape or 2" elastic tape.

Glenohumeral Joint

Purpose: To provide support and stability to the shoulder's glenohumeral joint. A continuous strip of elastic tape is applied in a shoulder spica method. This supportive technique should restrict abduction and external rotation of the glenohumeral joint.

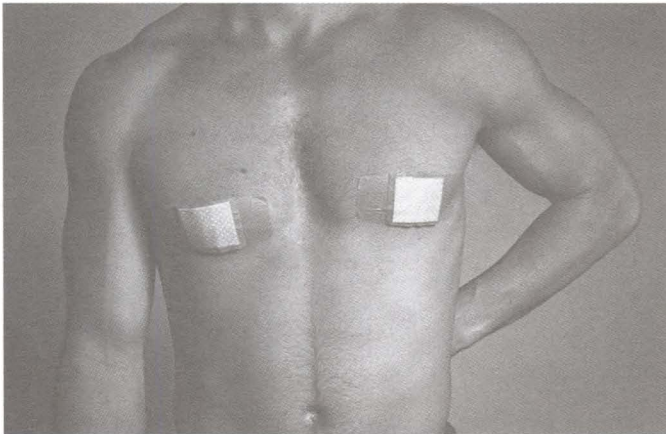
General Conditions Procedure Used for: Sprains and strains.

Anatomical Structure: Glenohumeral joint.

Anatomical Position: The athlete should stand with shoulder abducted, elbow flexed and biceps muscles contracted, hand on low back and chest expanded.

Supplies Needed: 3" elastic tape and gauze pads or large BAND-AIDS™.

Pre-taping Procedures:



-
1. Cover both nipples with gauze pads or BAND-AIDS™.

Taping Procedures:

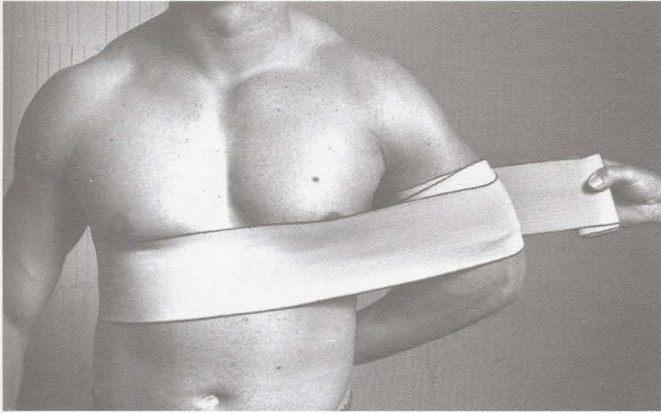


-
1. Begin on the distal aspect of the affected upper arm, move anteriorly, encircle the arm, continue across the anterior aspect of the chest, under the opposite arm, across the posterior aspect of the torso, and encircle the distal aspect of the upper arm.



2. Repeat this procedure a second time.

COMMENT: In certain situations, a check rein can be applied between the torso and upper arm. This technique will aid in preventing the glenohumeral joint from excessive abduction and external rotation.

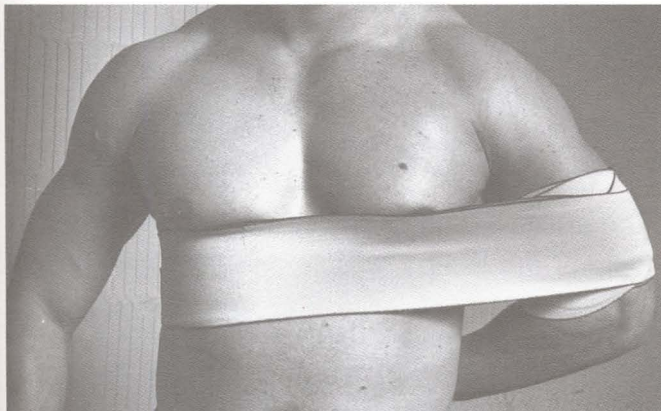


**Adjunct Taping Procedure:
GLENOHUMERAL JOINT**

This adjunct taping procedure can be used in conjunction with the basic technique presented.

Techniques A:

1. Using a 6" extra-long elastic wrap, apply a shoulder spica wrap to this area. This support wrap should restrict abduction and external rotation of the shoulder. Begin on the posterior aspect of the upper arm, move anteriorly, encircle the arm, continue across the anterior aspect of the chest, under the opposite arm, across the posterior aspect of the torso angling upward, over the affected joint, and then encircle the upper arm.



2. Repeat this procedure a second time.



3. Secure the wrap by using a continuous strip of elastic tape in the same pattern as the wrap.

Elbow Hyperextension

Purpose: To provide support and stability to the elbow joint.

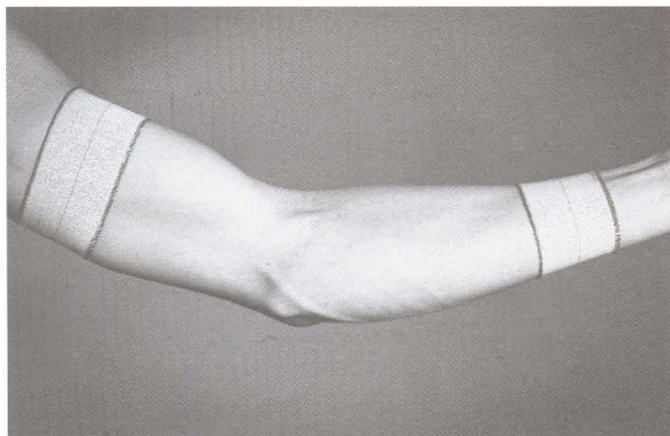
General Conditions Procedure Used For: Sprains and strains.

Anatomical Structure: Elbow.

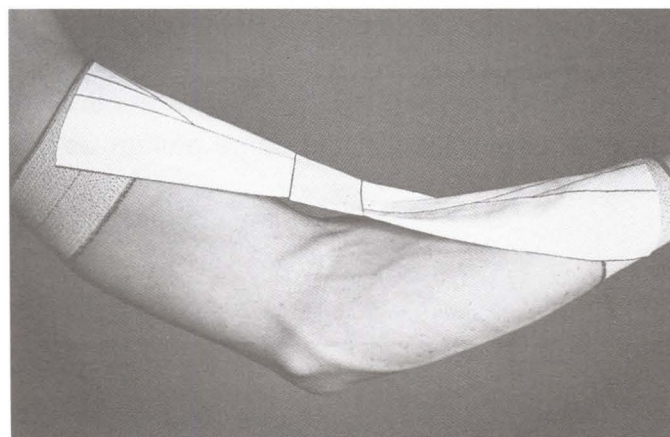
Anatomical Position: Elbow joint supinated and in slight flexion.

Supplies Needed: 2" elastic tape, and 1-1/2" adhesive tape.

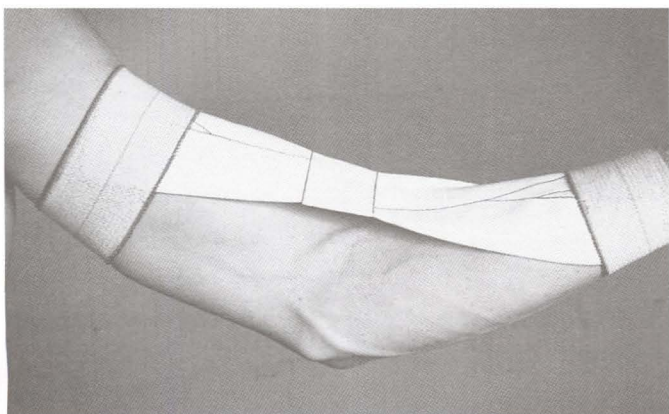
Taping Procedures:



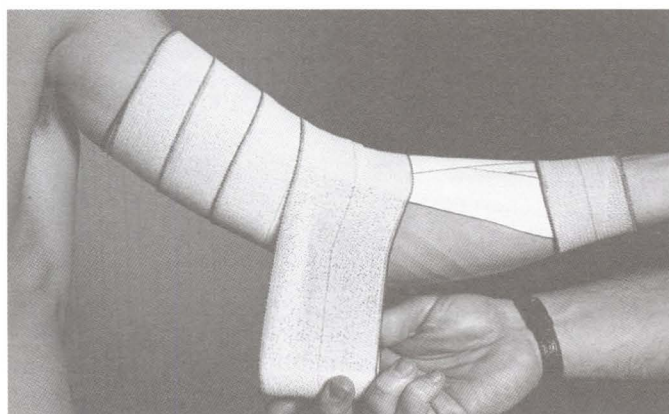
1. Apply two anchor strips of 2" elastic tape. The proximal anchor will be positioned above the belly of the biceps muscle and the distal anchor will be positioned on the distal one-third of the forearm.



2. Using 1-1/2" adhesive tape, construct a five to seven strip butterfly. Prior to application, place a strip of tape around the mid portion of this support pattern. Apply the butterfly pattern from the proximal anchor to the distal anchor. Apply proper tension to insure that the elbow does not reach full extension.

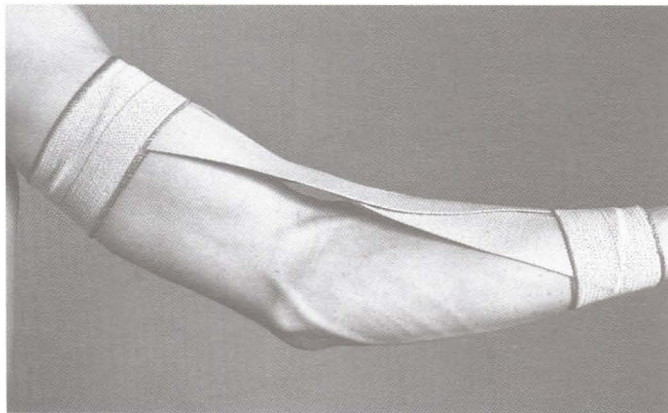
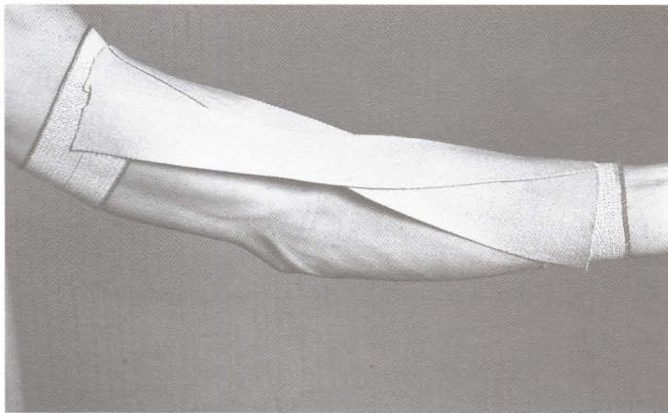
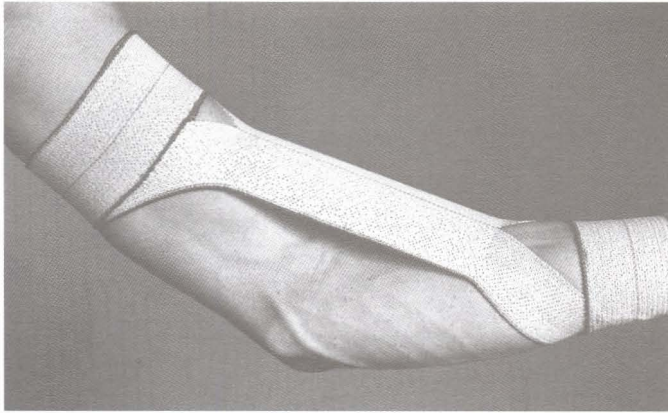
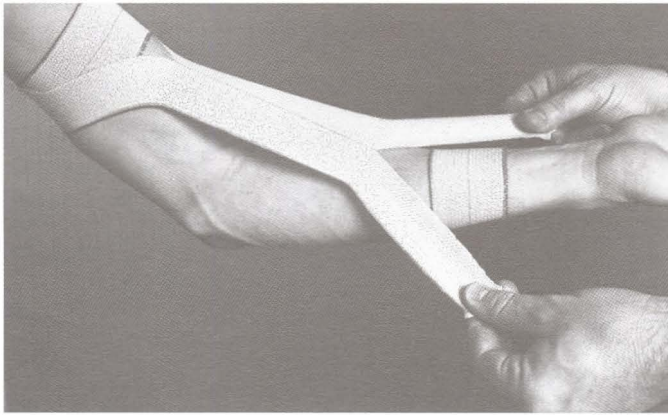


3. A second series of anchor strips should be applied, using elastic tape.



4. A final continuous closure strip is applied with 2" elastic tape. Begin on the proximal anchor and spiral the tape, overlapping one-half its width, and ending on the distal anchor.



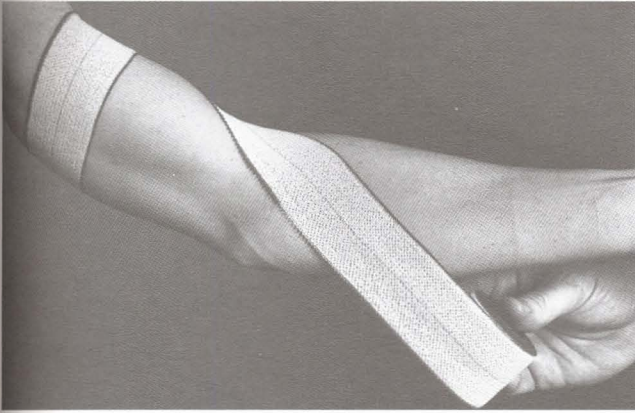


Adjunct Taping Procedure: ELBOW HYPEREXTENSION

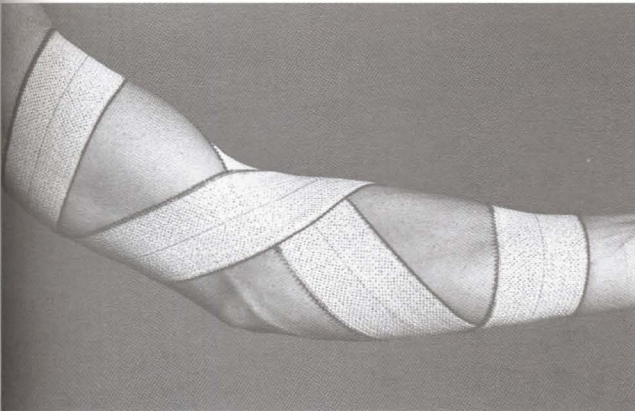
These adjunct taping procedures can be used in conjunction with the basic technique presented.

Technique A: This technique aids in preventing the elbow joint from excessive extension. Using 2" elastic tape, cut a strip 9-12" in length, split both ends lengthwise approximately three inches. With the elbow in slight flexion, encircle the proximal anchor with the split ends of the elastic tape. Pull the tape to full tension and encircle the distal anchor with the other split end of the elastic tape. Apply 2" elastic tape to secure the anchors.

Technique B: Use adhesive felt in place of the adhesive tape butterfly pattern.



Technique C: Apply a figure of eight pattern using 2" elastic tape. Beginning on the anterior lateral aspect of the upper arm, cross the elbow joint at the medial epicondyle, encircle the forearm, cross the lateral epicondyle, and anchor on the anterior medial aspect of the upper arm.



Elbow Epicondylitis

Purpose: To help reduce the pain associated with epicondylitis.

General Condition Procedure used for: Epicondylitis.

Anatomical Structure: Elbow.

Anatomical Position: Medial Epicondylitis: Elbow extended and forearm supinated.
Lateral Epicondylitis: Elbow extended and forearm pronated.

Supplies needed: 2" elastic tape, 1" adhesive tape, and 1/2" or 3/8" felt pad.

Pre-Taping Procedures:



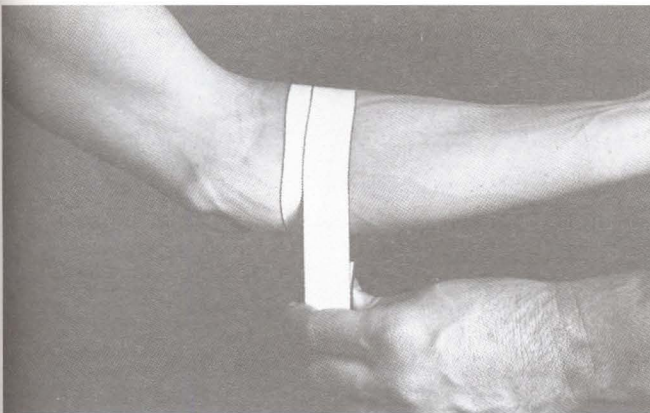
-
1. Place felt pad over affected area.



-
2. Anchor the felt pad using elastic tape. Encircle the forearm two or three times.
-

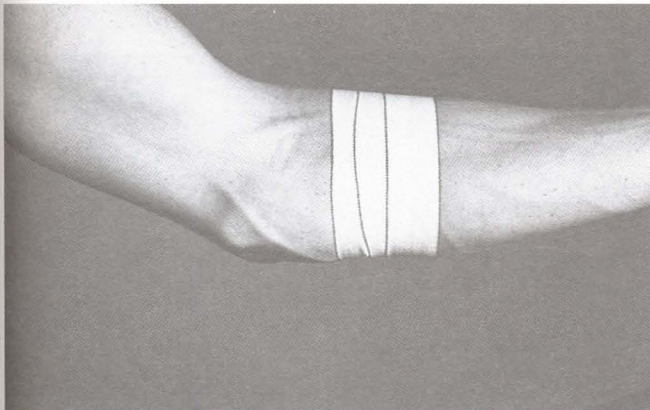


3. Secure the elastic tape ends with two or three support strips of adhesive tape, overlapping the tape by one-half its width.



Adjunct Taping Procedure: ELBOW EPICONDYLITIS

This adjunct taping procedure can be used in conjunction with the basic technique presented.



Technique A: Using 1" adhesive tape to apply two to three circular strips approximately two inches below the elbow's condyles.

Forearm Splint

Purpose: To help reduce the pain associated with forearm splints.

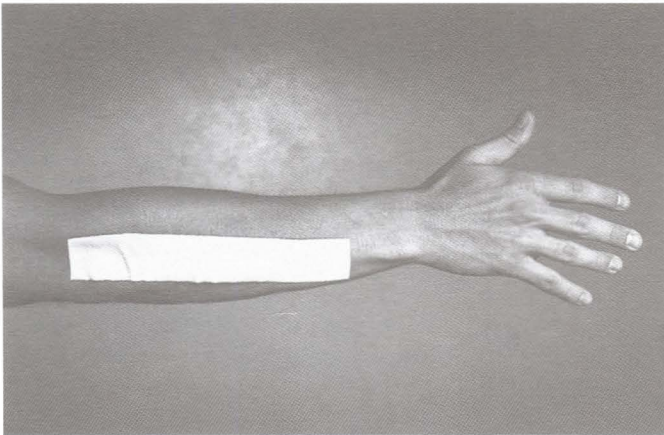
General Condition Procedure Used For: Forearm splints.

Anatomical Structure: Forearm.

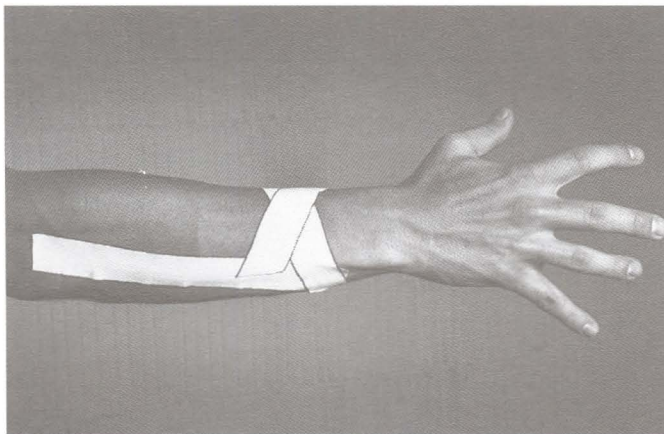
Anatomical Position: Elbow joint placed in slight flexion (10-15 degrees).

Supplies Needed: 1-1/2" adhesive tape and 2" elastic tape.

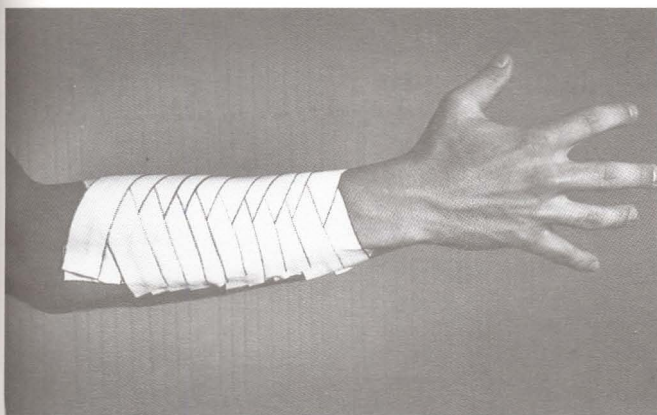
Taping Procedure:



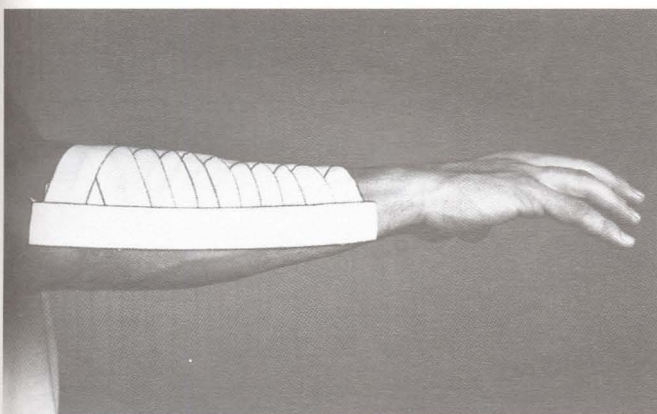
1. Apply anchor strips on the forearm's medial and lateral aspects using 1-1/2" adhesive tape.



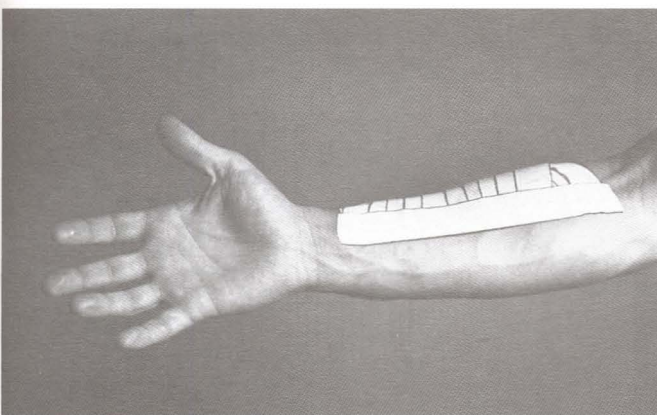
2. Apply a modified "X" pattern that will cover the affected area. Begin on the distal ends of the anchors and work toward the proximal ends.

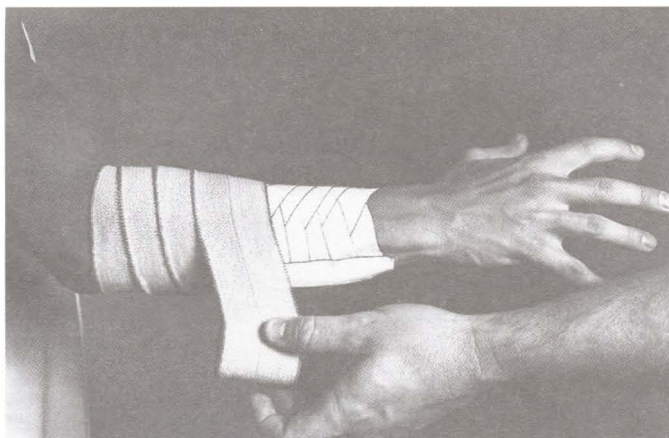


3. Apply three to six sets of "X" patterns, overlapping the tape by one-half its width.

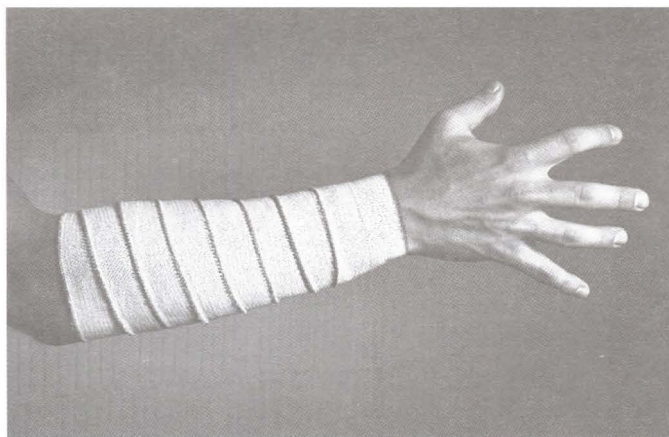


4. Apply a second set of anchors to help hold the technique in place. The posterior aspect of the forearm is not covered by adhesive tape.





5. A final continuous closure strip is applied with 2" elastic tape. Begin on the proximal anchor and spiral the tape, overlapping the tape by one-half its width, ending on the distal anchor. Secure the elastic tape ends with adhesive tape anchors.



**Adjunct Taping Procedure:
FOREARM STRAIN TAPING**

This adjunct taping procedure can be used in conjunction with the basic technique presented.

Technique A: Utilizing either 2" elastic tape or 2" elastic wrap, apply a compression technique over the forearm area. (NOT SHOWN)

Chapter 7

WRAPPING TECHNIQUES FOR THE WRIST AND HAND

It is imperative that the health care professional develop a thorough knowledge regarding the fundamentals about the application of taping/wrapping procedures. It is recommended that Chapter 1 be reviewed before the application of any technique.

Assessing an Injury

Before applying the first piece of tape, a proper injury evaluation should be completed by a physician. Following injury evaluation, a qualified health care professional can then make recommendations concerning proper taping techniques. This helps insure that proper taping techniques are applied for support and stabilization. Also, it is imperative that the health care professional develop a thorough knowledge of taping application fundamentals.

Anatomical Graphics

The anatomy of the wrist and hand will consist of all structures listed on the anatomical graphics. A brief overview of the bones and ligaments will be followed by a similar section on the muscles and tendons. Please refer to the anatomical graphics on page 7-2 and 7-3.

Bones

- Navicular
- Lunate
- Triquetrum
- Pisiform
- Trapezium
- Trapezoid
- Capitate
- Hamate
- Metacarpals (5)
- Phalanges (14)

Ligaments

- Dorsal radiocarpal (not shown)
- Palmar radiocarpal (not shown)
- Radial Collateral
- Ulnar Collateral

Muscles

- Flexor/Extensor carpi radialis
- Flexor/Extensor carpi ulnaris
- Flexor/Extensor pollicis longis
- Flexor/Extensor pollicis brevis
- Flexor/Extensor digiti
- Abductor/Adductor pollicis (not shown)
- Interossei palmares (not shown)
- Opponens pollicis (not shown)
- Opponens digiti minimi (not shown)

Purpose and Application of Adhesive and Elastic Tape

The primary purpose for tape application is to provide additional support and stability for the affected body part. Through proper application, taping techniques can be applied to shorten the muscles angle of pull, decrease joint range of motion, secure pads, bandages and protective devices, and to apply compression to aid in swelling reduction.

To tear tape, the adhesive tape is held firmly on each side of the proposed tear line. With

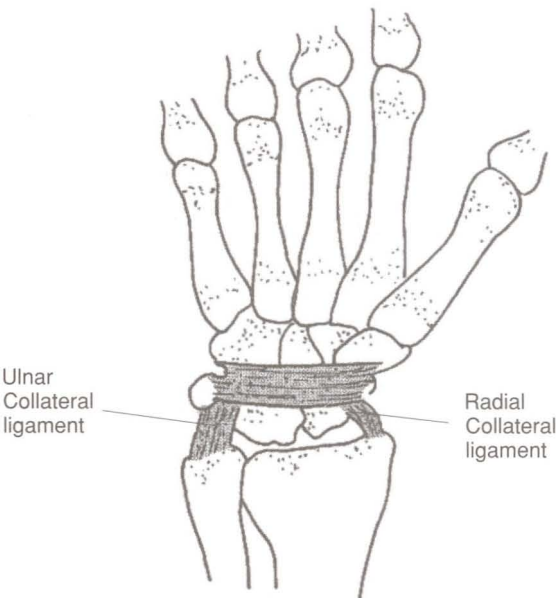
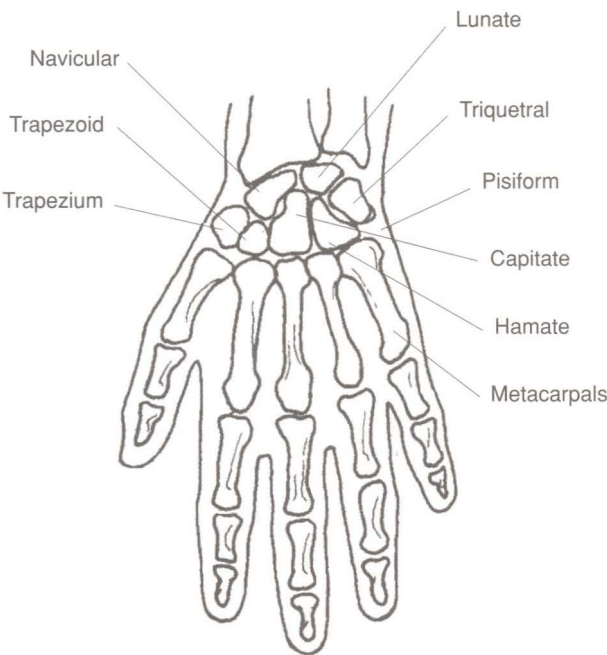
Common Terminology

Dorsum - the back side of the hand.

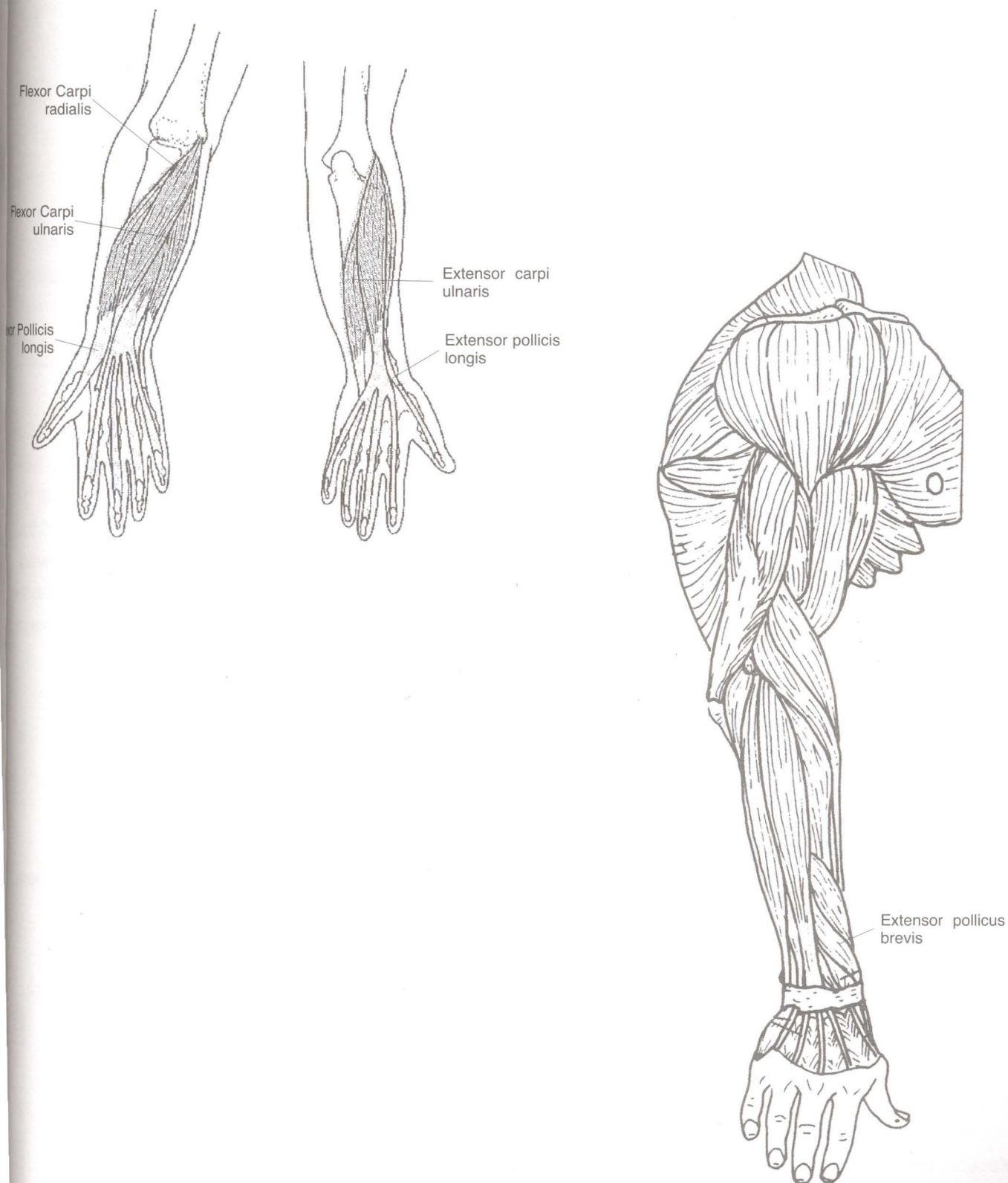
Palmar - ventral aspect of the hand (palm of the hand).

Volar - ventral aspect of the hand (more commonly used when describing the fingers).

ANATOMICAL GRAPHICS



ANATOMICAL GRAPHICS



proper tension applied on the tape, the free end is pulled away at an angle so that the force crosses the lines of the fabric of the backcloth at a sharp angle. The tear then occurs sequentially through the backcloth. The more quickly this maneuver is done, the more evenly tape edges will be torn. Some brands of elastic tape are extremely hard to tear by hand. Cut those brands with scissors to insure proper tape application and neatness.

Selection of Athletic Training Supplies and Specialty Items

One of the most critical aspects of taping techniques is the selection of proper supplies. Your selection depends on the number and types of sports offered and frequency of injury. Purchasing supplies depend on budget, philosophy of medical staff regarding taping techniques, and occurrence of injury. Special consideration must be given to these additional supplies: benzoin (spray adherent), adhesive versus elastic tape, width of adhesive and elastic tape, and length and width of elastic wraps.

In this text, tape terminology used will be adhesive tape or elastic tape. The adhesive tape is traditionally marketed as non-elastic, white tape. Elastic tape provides greater freedom of mobility to the affected body part, and is marketed as elastic tape. Both adhesive and elastic tapes are produced in a variety of widths (Adhesive Tape Widths: 1/2", 1", 1-1/2", 2"; Elastic Tape Widths: 1", 2", 3", 4".)

The terminology for elastic wrap is defined as a woven fabric that also allows for expansion and contraction, in which either compression or supportive techniques can be utilized. This product is typically produced in 1, 2, 3, 4, and 6 inch widths. In certain situations, an extra long length is more desirable.

In the preparation of some body parts, skin protection must be considered to achieve proper pre- and post-activity care. A medicated ointment

and garment barrier are used in open wound protection. Additional skin protection can be provided, when needed, with BAND-AID (a registered trademark of Johnson & Johnson), gauze, adhesive felt, underwrap, heel and lace pads, and spray adherent. Additionally, felt and foam rubber can be used to protect the affected body part.

Sports Specific Rules on Taping

If you apply supportive techniques to an athlete, you should be cognizant of specific rules governing tape application in that particular sport. Your application must fall within the guidelines established for each sport by appropriate governing bodies.

Special Techniques - Adjunct Taping Procedures

The taping techniques presented are the fundamental procedures. Adjunct techniques will be shown to provide additional support, however, the fundamental procedures should still be followed. Variations can be achieved by adapting these techniques to a particular injury situation. Always give special consideration to:

- purpose of the taping procedure
- general condition procedure used for
- correct anatomical position
- proper supply selection.

Preparation of Body Part for Taping

In preparing the body for tape application, consider these six items:

1. Removal of Hair
2. Clean the Area
3. Special Considerations
4. Spray Adherent
5. Skin Lubricants
6. Underwrap

Musculoskeletal Disorders

The following is a list of common musculoskeletal disorders, for which taping/wrapping techniques can be applied. Consult with either *Tabers Cyclopedic Medical Dictionary* or *Signs and Symptoms of Athletic Injuries* for an accurate definition of these terms.

Hand and Wrist

- Boutonniere Deformity
- Carpal Tunnel Syndrome
- Dislocation
- Mallet finger
- Subungual Hematoma
- Sprain

Proper Body Positioning

Before beginning any taping procedure, select a comfortable table height and ask the athlete to assume an anatomically correct and comfortable position. From the anatomical position, the elbow joint should be held in slight flexion (10-15 degrees). The neutral position of the hand and wrist will depend upon the specific taping technique utilized. Position yourself in a good postural alignment to minimize strain and fatigue.

TAPING TECHNIQUES

The taping techniques presented in this text are the fundamental procedures. Variations can be achieved by adapting these techniques to a particular injury situation. A strong knowledge of anatomy is essential. To increase your knowledge in anatomy, please consult the texts listed at the end in Appendix B.

NOTE: Wrapping Techniques for Support and Compression

Chapter 2 of the text covers specific procedures related to wrapping techniques. The following procedures are detailed in Chapter 2.

- Wrapping Technique for Compression
- Wrist and Hand

Wrist

Purpose: To provide support and stability for the wrist.

General Conditions Procedure Used For: Sprains and strains.

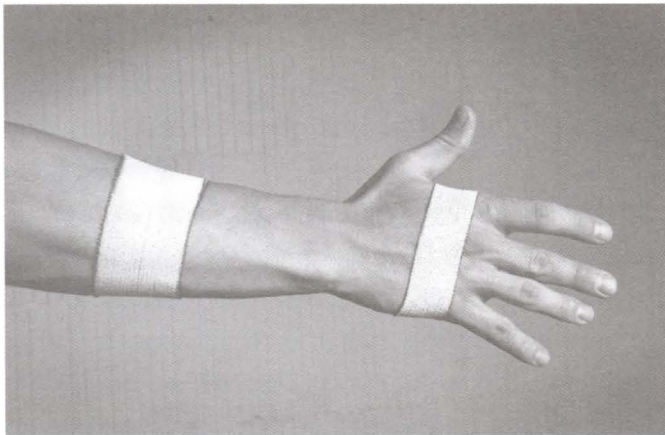
Anatomical Structure: Dorsal and palmar radiocarpal ligaments and the radial and ulnar collateral ligaments.

Anatomical Position: Hyperextension: Wrist positioned in slight flexion and fingers spread apart.
Hyperflexion: Wrist positioned in slight extension and fingers spread apart.

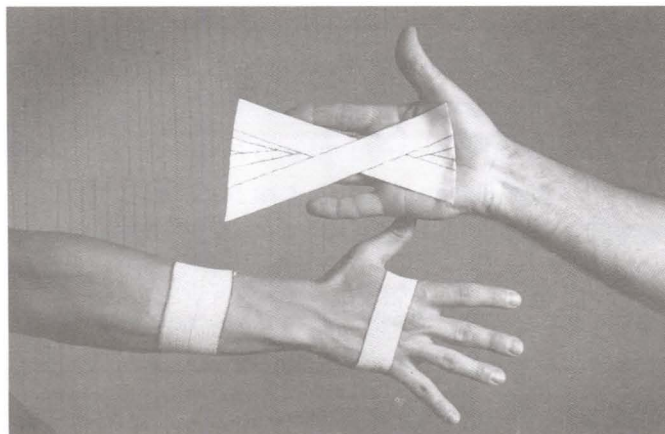
Supplies Needed: 1" and 1-1/2" adhesive tape, and 1" and 2" elastic tape.

Pre-Taping Procedure: With the wrist in a supinated position, in slight extension and fingers spread apart.

Taping Procedures:



1. Apply two anchor strips of 1" and 2" elastic tape. The 2" anchor should be applied around the mid-forearm; the 1" anchor around the 2nd through 5th metacarpal heads.



2. Using adhesive tape, construct a five to seven strip butterfly pattern that will extend from the proximal anchor to the distal anchor. To prevent hyperflexion, place this butterfly pattern of the hand's dorsal aspect. To prevent hyperextension, place butterfly pattern on the hand's palmar aspect.



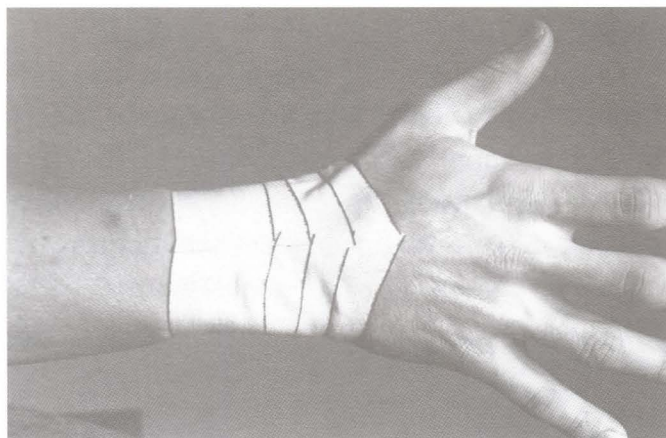
3. Next, apply a second series of anchor strips.



4. Then, apply a 1" strip of elastic tape in a figure of eight pattern. Begin on the dorsal aspect of the forearm, cross diagonally to the 2nd metacarpal, encircle the distal aspect of the 2nd through 5th metacarpals, continue across the palmar aspect to the 5th metacarpal and cross diagonally from there to the radial aspect of the wrist and encircle the wrist. Two to three figures of eight can be applied.



5. A final continuous closure strip is applied with 2" elastic tape. Begin on the proximal anchor and spiral the tape, overlapping one-half its width, and ending on the distal anchor. Secure the elastic tape ends with anchors of adhesive tape.



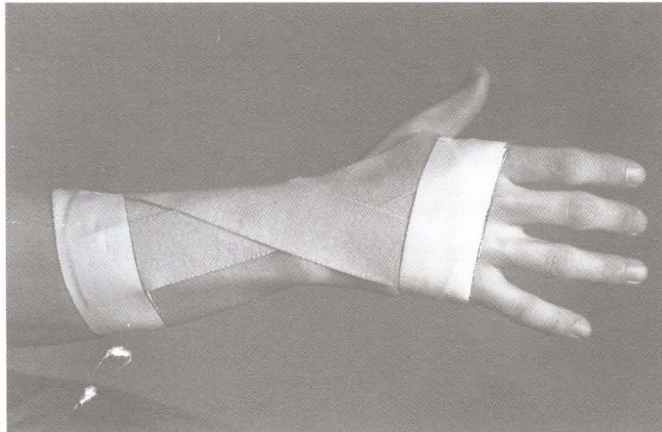
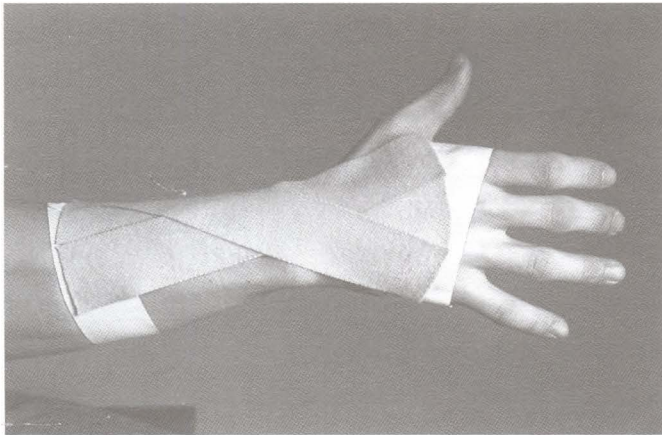
Adjunct Taping Procedures: **WRIST**

These adjunct taping procedures can be used in conjunction with the basic technique presented.

Technique A:

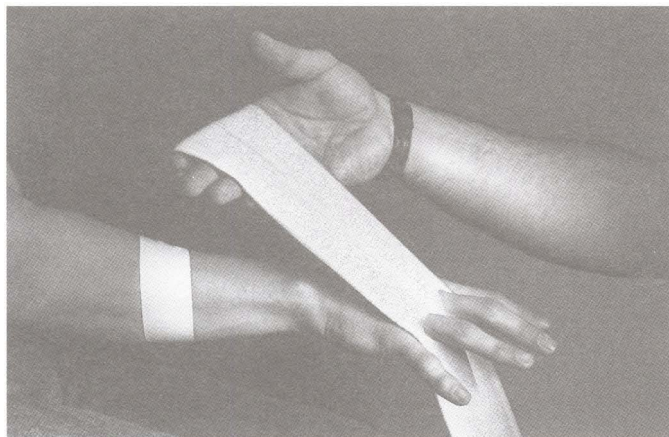
1. In certain sporting activities, tape should not be applied to the palm of the hand. In such situations, apply two layers of four support strips. Begin distally and work proximally. Apply the 1-1/2" adhesive tape around the wrist starting at the ulnar condyle, cross the dorsal aspect of the distal forearm, and encircle the wrist. Overlap the tape by one-half its width each time.

2. The second layer should be applied proximally to distally and should cover the same area.



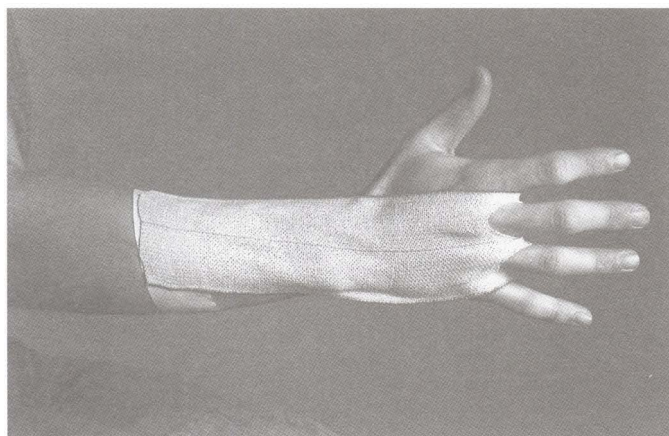
Technique B: In conjunction with Technique A, include a thumb spica taping procedure. Starting at the ulnar condyle, cross the dorsum of the hand, cover the lateral joint line, encircle the thumb, proceed across the palmar aspect of the hand, and finish at the ulnar condyle.

Technique C: Use adhesive felt in place of the adhesive tape butterfly pattern.



Technique D:

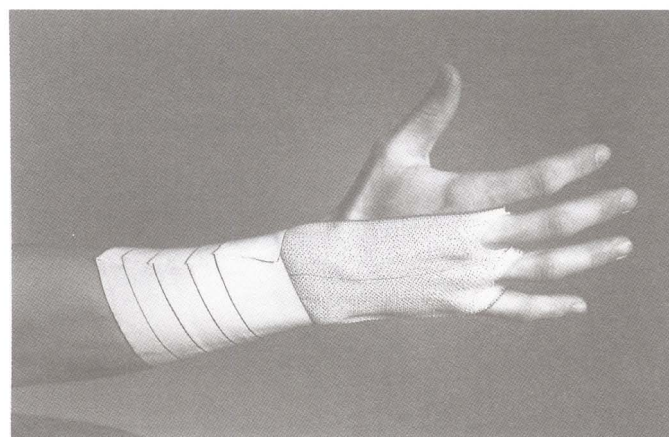
1. Apply an anchor strip of 1-1/2" adhesive tape around the mid-forearm. Using 3" elastic tape, cut a strip 12-16" in length. In the middle of the tape strip, cut two small holes, approximately 1" from each side of the tape. With full tension applied to the tape, place the 3rd and 4th phalanges through the cut outs.



2. Attach the ends of the elastic tape to the mid-forearm anchor.



3. Secure the procedure by applying an anchor of 1-1/2" adhesive tape over the tape ends.



Thumb Spica

Purpose: To provide support and stability for the 1st Metacarpophalangeal (MP) joint of the hand.

General Condition Procedure Used for: Sprain.

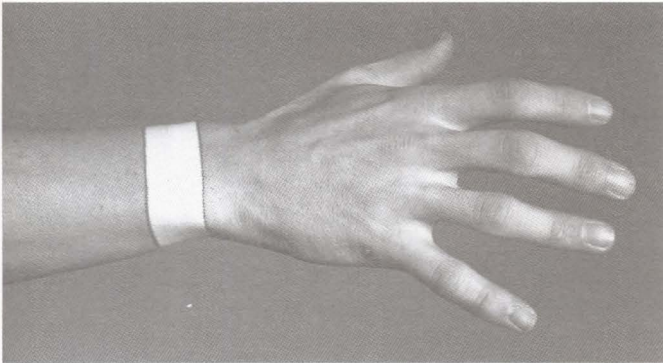
Anatomical Structure: Thumb and wrist.

Anatomical Position: Hand in palm-down position, with thumb slightly flexed and phalanges adducted.

Supplies Needed: 1" adhesive tape.

Pre-Taping Procedure: With the wrist in a supinated position, in slight extension and fingers spread apart.

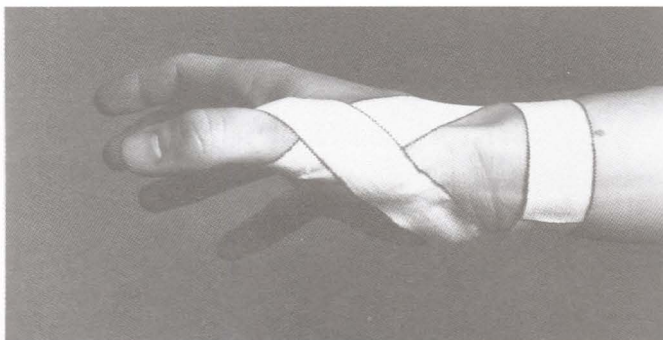
Taping Procedures:



1. Apply an anchor strip of adhesive tape around the wrist. Start at the ulnar condyle, cross the dorsal aspect of the distal forearm, and encircle the wrist.



2. Apply the first of three support strips for the 1st MP joint. Starting at the ulnar condyle, cross the dorsum of the hand, cover the lateral joint line, encircle the thumb, proceed across the palmar aspect of the hand, and finish at the ulnar condyle.





3. This is commonly referred to as a thumb spica. Repeat this procedure.



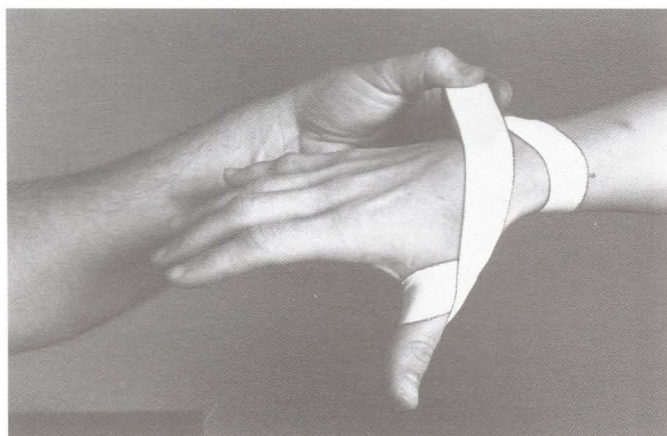
4. To help hold this procedure in place, apply a final anchor strip around the wrist.

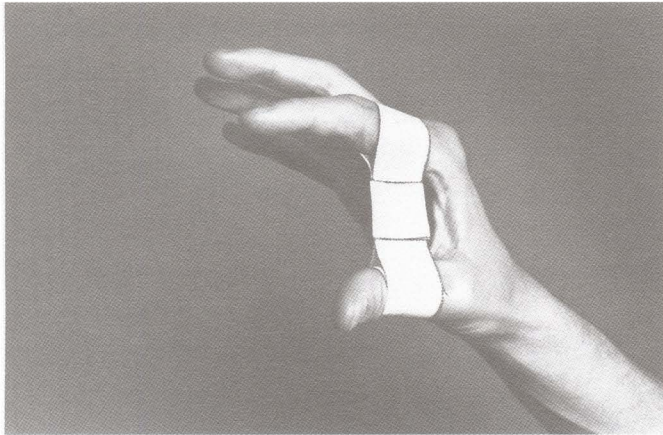
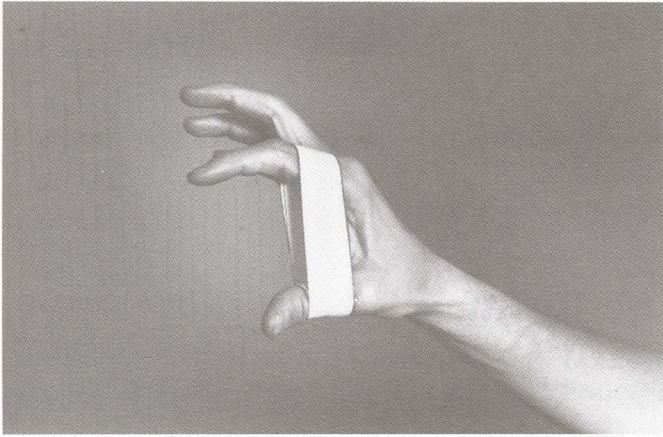


Adjunct Taping Procedures: THUMB SPICA

These adjunct taping procedures can be used in conjunction with the basic technique presented.

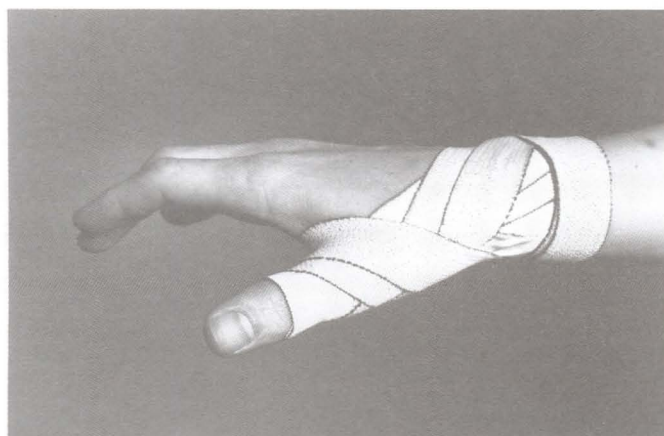
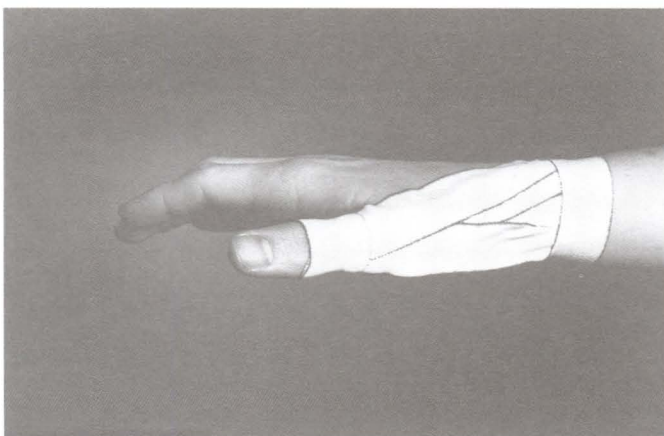
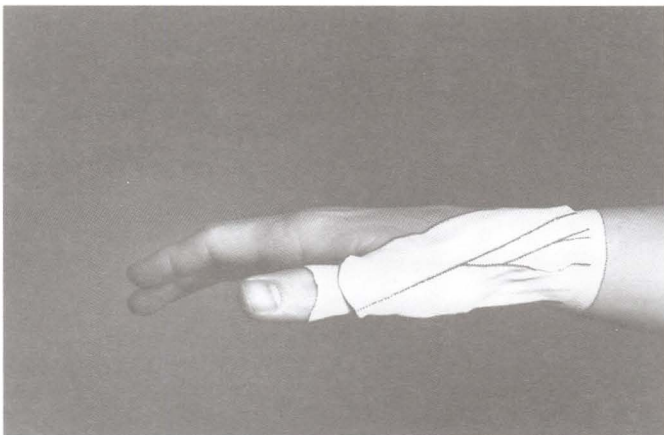
Technique A: In another application of the thumb spica, tape is applied in the opposite direction. Apply the first of three support strips for the 1st MP joint. Starting at the ulnar condyle, cross the palmar portion of the hand, cover the medial joint line, encircle the thumb, proceed across the dorsum aspect of the hand, and finish at the ulnar condyle. When you are taping to support the ulnar collateral ligament, this technique may be preferred.





Technique B: Apply thumb c-lock for additional support.

Technique C: For additional support, apply adduction strips. These strips should be applied from the dorsal aspect of hand, across the thumb and ending on palmar surface of the hand. Overlap tape one-half its width until the first IP joint is covered.



Technique D:

1. Use adhesive tape to form a fan shape (four to six strips should be applied to provide adequate support). Place the fan-shaped tape from the proximal phalange, covering the affected area, and ending on the radial aspect of the wrist. Adhesive felt can be used in place of the adhesive tape.

2. To secure, apply a continuous strip of elastic tape around the thumb and wrist. This joint spica will provide additional support.

Technique E: Using 1" adhesive tape apply three to four support strips. Begin distally and work proximally. Each strip will resemble a half figure of eight pattern.

Thumb C-Lock

Purpose: To provide support and stability for the 1st Metacarpophalangeal (MP) joint of the hand.

General Condition Procedure Used for: Sprain.

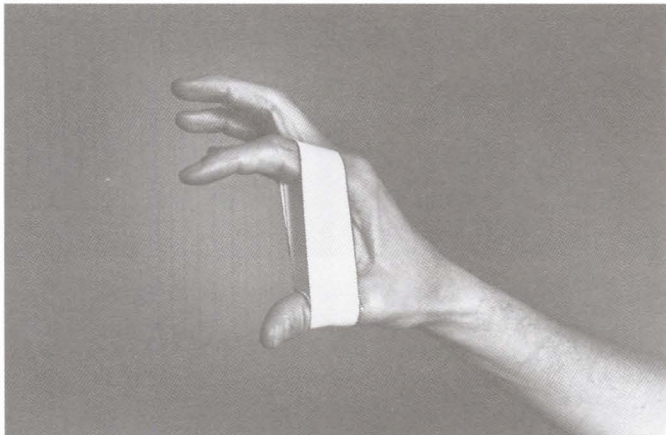
Anatomical Structure: Thumb and wrist.

Anatomical Position: Hand in palm-down position, with thumb slightly flexed and phalanges adducted.

Supplies Needed: 1" adhesive tape.

Pre-Taping Procedure: With the thumb parallel to index finger and approximately a 1" gap between the phalanges.

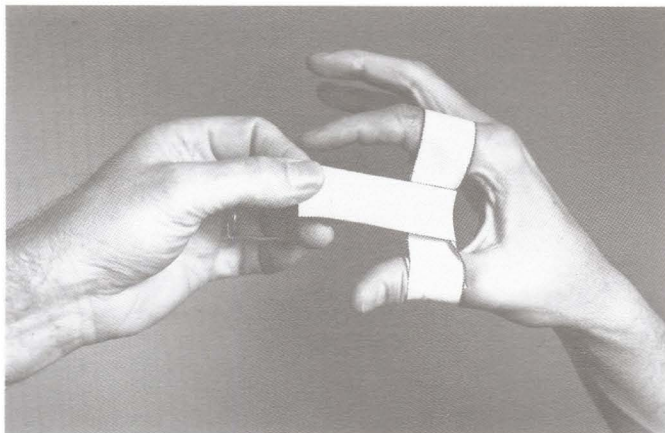
Taping Procedure:



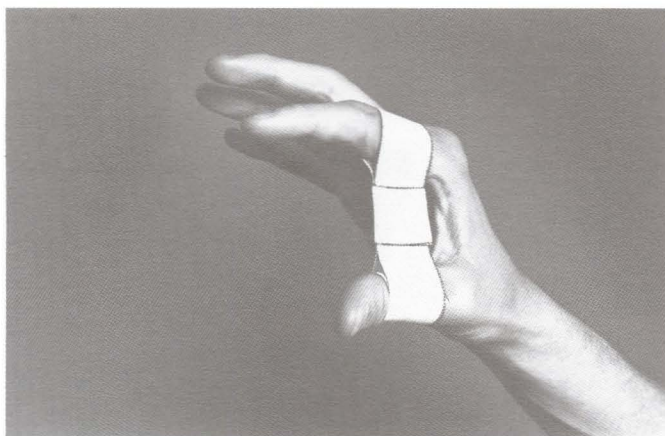
1. Apply a continuous strip of tape encircling the proximal aspects of the 1st and 2nd phalanges.



2. Between these phalanges, press the tape together.



3. To secure this technique, apply a strip of tape parallel to the 1st and 2nd phalanges, that encircles the tape in the space between the thumb and index finger. This procedure restricts the thumb in abduction and extension.



Comment: This procedure restricts the thumb in abduction and extension. Therefore, it is sometimes referred to as the butterfly, buddy taping, or check rein.

Finger Splint

Purpose: To aid in support of the injured interphalangeal (IP) joint.

General conditions procedure used for: Sprains to the phalanges of the hand.

Anatomical structure: Interphalangeal joint.

Anatomical position: Phalanges placed in extension.

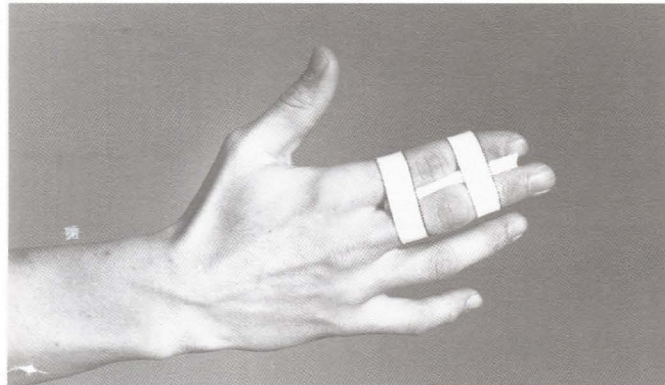
Supplies needed: 1/2" adhesive tape and gauze, felt or foam rubber.

Pre-Taping Procedure: You should cut your gauze to the appropriate size before you begin. Place the phalanges in extension.

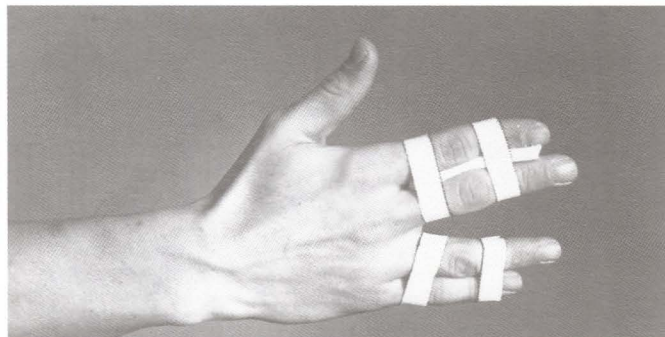
Taping Procedures:



1. Place gauze between affected and adjacent phalanges.



2. Apply 1/2" adhesive tape around the proximal and distal aspects of the affected and adjacent phalanges. This technique is known as buddy taping.



3. In high-risk sports, you should pair and tape the 2nd and 3rd phalanges, and the 4th and 5th phalanges together.

Collateral Interphalangeal Joint

Purpose: To provide support and stability to the proximal interphalangeal (PIP) joint of the phalanges.

General condition procedure used for: Sprain to proximal IP joint.

Anatomical structure: Interphalangeal joints.

Anatomical position: Slightly flex the pip joint.

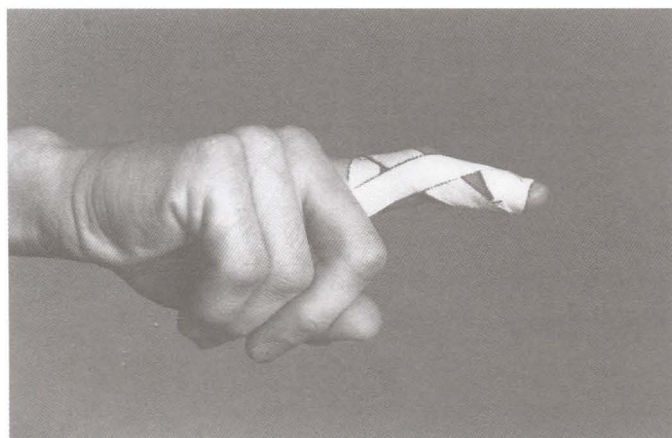
Supplies needed: 1/2" adhesive tape.

Pre-Taping Procedure: With the hand's palmar side up, phalanges slightly flexed and abducted.

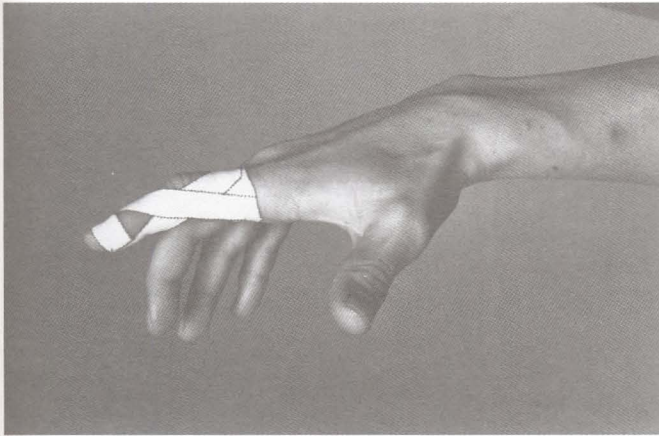
Taping Procedures:



1. Anchor strips applied around proximal and distal aspects of phalanges.



2. Starting on the anterior portion of the proximal anchor, apply the tape crossing the medial joint line, under the finger, and ending on the distal anchor.



3. Start on the anterior portion of the distal anchor, apply the tape crossing the lateral joint line, under the finger, and ending on the proximal anchor.



4. To secure this technique, apply a second anchor over the tape ends. For additional support and to allow greater mobility of the affected joint, this technique can be combined with finger splinting.

Hyperextension of Phalanges

Purpose: To reduce hyperextension movement of interphalangeal (IP) and metacarpophalangeal (MP) joints.

General conditions procedure used for: Sprains and strains.

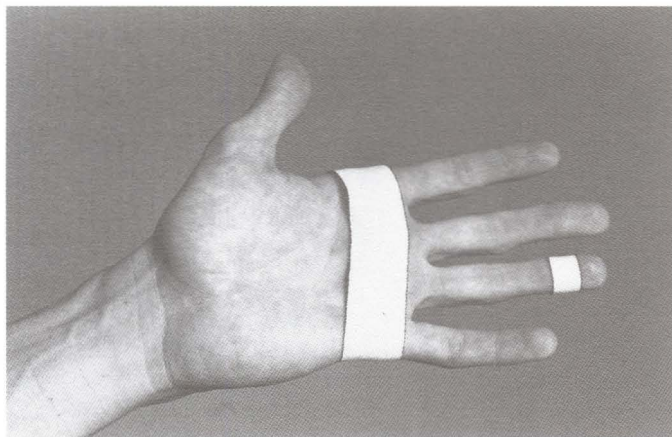
Anatomical structure: Phalanges and hand.

Anatomical position: Palmar side up, phalanges slightly flexed and abducted.

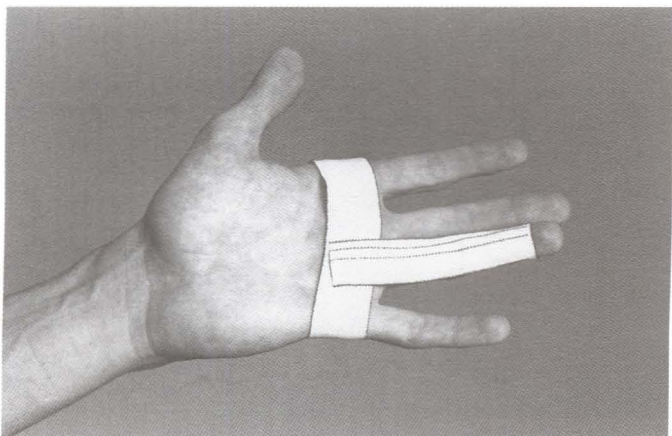
Supplies needed: 1/2" or 1" adhesive tape.

Pre-Taping Procedure: With the hand's palmar side up, phalanges slightly flexed and abducted.

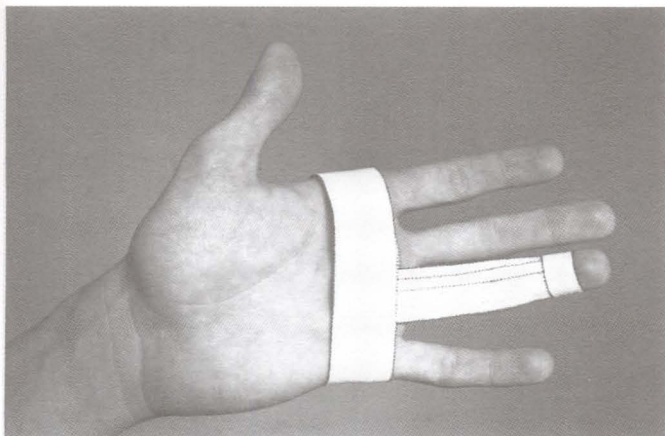
Taping Procedures:



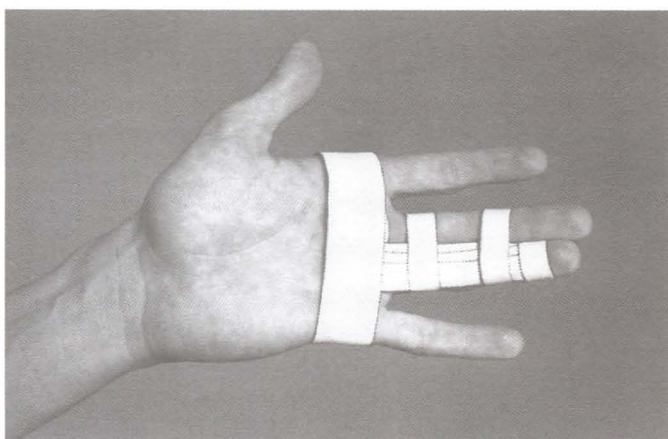
1. Apply an anchor strip around the distal aspect of the 2nd through 5th metacarpals and a second anchor around the distal portion of the affected phalange.



2. Apply two to three stabilizing bars of tape from the proximal to distal anchors on the hand's palmar aspect.



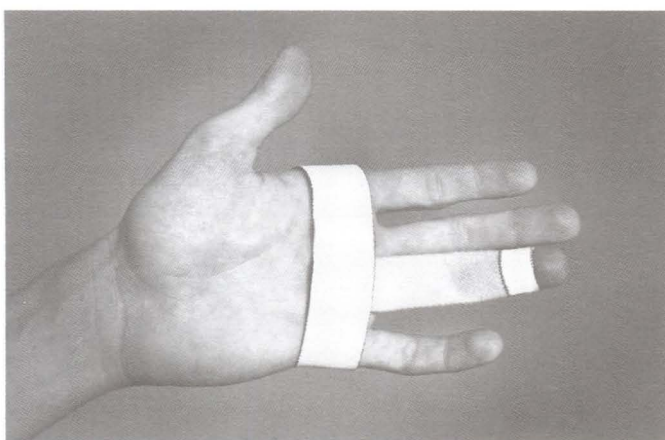
3. To secure this technique, apply a second anchor over the original anchors.



Adjunct Taping Procedures: Hyperextension of phalanges

These adjunct taping procedures can be used in conjunction with the basic technique presented.

Technique A: For additional support, this technique can be combined with finger splinting (buddy taping), which will allow greater mobility of the affected joint.



Technique B: Adhesive felt, cut to an appropriate size, can be used as stabilizing bars in place of adhesive tape.

Contusion to Hand

Purpose: To provide protection to the bruised hand.

General condition procedure used for: Contusions.

Anatomical structure: Hand and wrist.

Anatomical position: Hand's palmar aspect down and phalanges abducted.

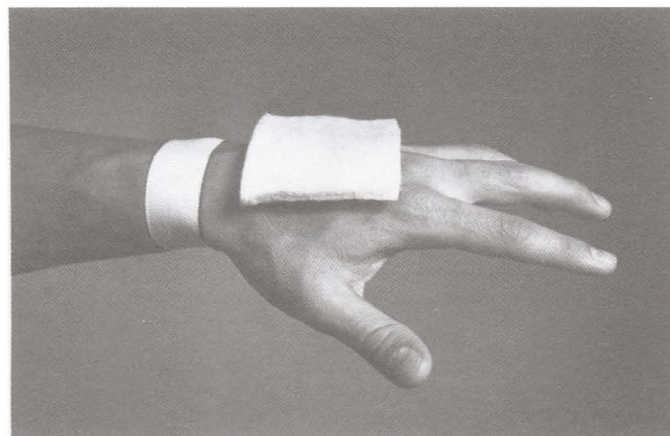
Supplies needed: 1" and 1/2" adhesive tape, 2" elastic tape, and felt or foam pad.

Pre-Taping Procedure: Cut the foam pad before beginning your procedure.

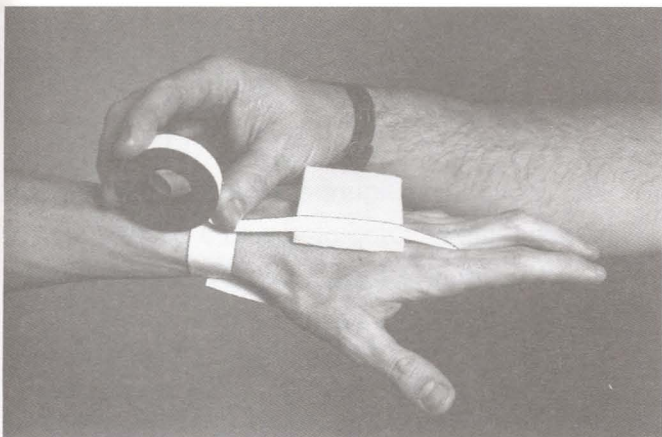
Taping Procedures:



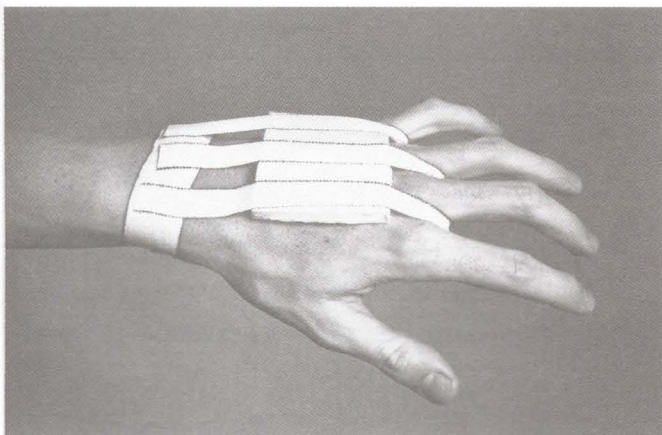
1. Apply an anchor strip of 1" adhesive tape around the wrist. Start at the ulnar condyle, cross the dorsal aspect of the distal forearm, and encircle the wrist.



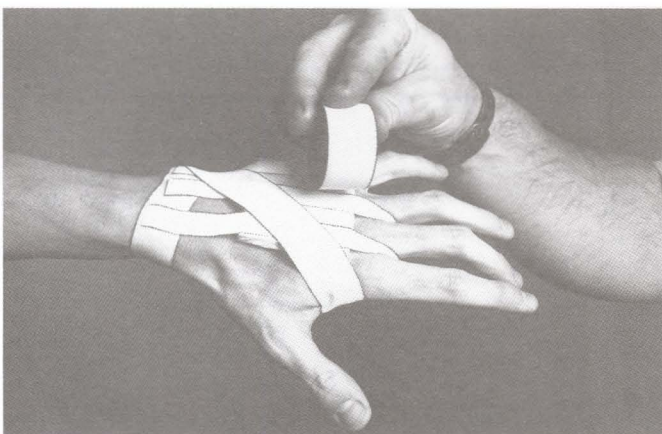
2. The foam pad is then applied over the affected area of the hand.



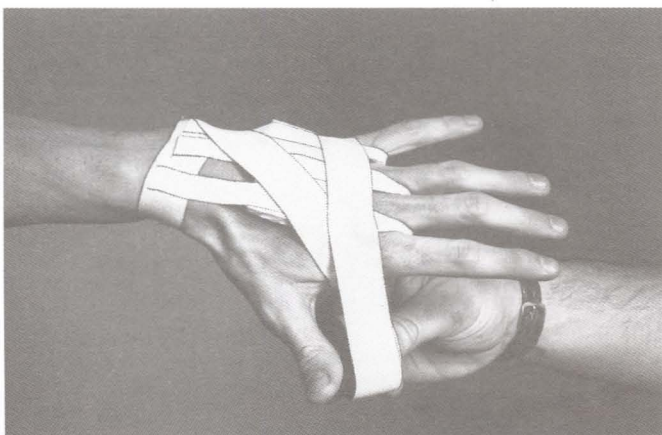
3. Apply strips of 1/2" tape. Start on the palmar aspect of the anchor strip, cross between the phalanges, and end on the dorsal aspect of the anchor strip.

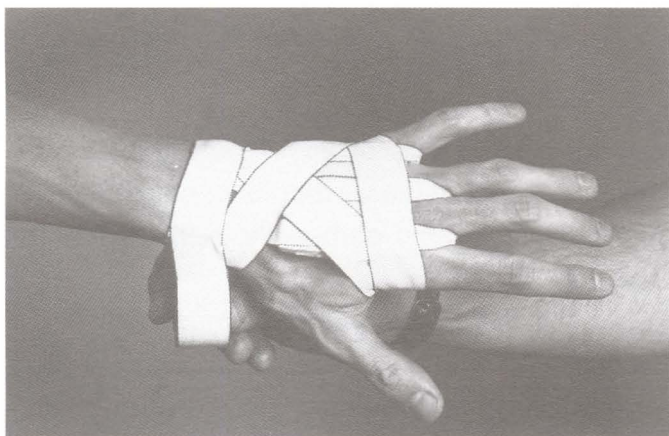


4. Three strips are applied, between the 2nd and 3rd, 3rd and 4th, and 4th and 5th phalanges.



5. Next, apply a strip of 1 " adhesive tape in a figure of eight pattern. Begin on wrist's dorsal aspect near the ulnar condyle, cross diagonally to the 2nd metacarpal, encircling the distal aspect of the 2nd through 5th metacarpals. Continue across the palmar aspect to the 5th metacarpal, crossing diagonally from here to the radial aspect of the wrist and encircle the wrist.





6. Two to three figure of eights can be applied. This technique is completed with a second anchor strip of 1" adhesive tape applied around the wrist.



7. A continuous figure of eight strip of 2" elastic tape is applied to give additional support.

COMPREHENSIVE MANUAL OF TAPING AND WRAPPING

Dr. Wright has been The University of Alabama's Director of Athletic Training Education since 1988. Prior to that, he served as Head Athletic Trainer at the University of North Carolina-Charlotte and Morehead State University.

Dr. Wright has numerous publications to his credit including a series of seven videos titled, "Sports Medicine Evaluation Series", a series of six videos titled "Sports Medicine Taping", a computer assisted instructional program titled "Sports Injuries", and two textbooks, The Comprehensive Manual of Taping and Wrapping Techniques and Basic Athletic Training. Ken also serves on the "Journal of Athletic Training" editorial board.

Additionally, Ken has been involved as an athletic trainer with the United States Olympic Committee at both national and international competitions since 1984. Currently, he serves as a drug crew chief in the USOC drug control program and committee member of the NATA/USOC Elite Athlete Network Task Force.

Dr. Wright received his Doctor of Arts from Middle Tennessee State University (1984), Masters of Science from Syracuse University (1976), and a Bachelor of Science from Eastern Kentucky University (1974).

Dr. Whitehill is the Program Director of Athletic Training at Middle Tennessee State University. His academic degrees have been from Morehead State University, Xavier University, and The University of Alabama. He has worked with the United States Olympic Committee in two capacities: Sports Medicine and Drug Control. Dr. Whitehill has been given a year's leave of absence from Middle Tennessee to work with the Atlanta Committee for the Olympic Games as the Program Manager for Athletic Medical for the 1996 Centennial Olympic Games.