Splinting, Casting, and Wrapping with Online Module

Michael Petrizzi, MD, FAAFP
Steven L. Cole, MEd, ATC
Mary Petrizzi, ATC
ACTIVITY DISCLAIMER

The material presented here is being made available by the American Academy of Family Physicians for educational purposes only. Please note that medical information is constantly changing; the information contained in this activity was accurate at the time of publication. This material is not intended to represent the only, nor necessarily best, methods or procedures appropriate for the medical situations discussed. Rather, it is intended to present an approach, view, statement, or opinion of the faculty, which may be helpful to others who face similar situations.

The AAFP disclaims any and all liability for injury or other damages resulting to any individual using this material and for all claims that might arise out of the use of the techniques demonstrated therein by such individuals, whether these claims shall be asserted by a physician or any other person. Physicians may care to check specific details such as drug doses and contraindications, etc., in standard sources prior to clinical application. This material might contain recommendations/guidelines developed by other organizations. Please note that although these guidelines might be included, this does not necessarily imply the endorsement by the AAFP.

This CME session is supported by in the form of disposable supplies (non-biological) to the AAFP from BSN Medical, Inc.
It is the policy of the AAFP that all individuals in a position to control content disclose any relationships with commercial interests upon nomination/invitation of participation. Disclosure documents are reviewed for potential conflict of interest (COI), and if identified, conflicts are resolved prior to confirmation of participation. Only those participants who had no conflict of interest or who agreed to an identified resolution process prior to their participation were involved in this CME activity.

All individuals in a position to control content for this session have indicated they have no relevant financial relationships to disclose.

The content of my material/presentation in this CME activity will not include discussion of unapproved or investigational uses of products or devices.
Michael Petrizzi, MD, FAAFP

Clinical Professor, Department of Family Medicine and Population Health, Virginia Commonwealth University (VCU), Richmond; Private Practice Physician, Hanover Family Physicians, Mechanicsville, Virginia; Team Physician, Atlee High School, Mechanicsville; Volunteer Physician, VCU Athletics, Richmond; Faculty, National Procedures Institute

Dr. Petruzzi is a graduate of the medical college at State University of New York (SUNY) Downstate Medical Center. He completed his family medicine residency at the University of North Carolina (UNC) at Chapel Hill, as well as a fellowship. Dr. Petruzzi practices full-spectrum family medicine, from newborn to nursing home, with a sports medicine concentration. He is the recipient of the SUNY Downstate Medical Center’s George Liberman, MD, Award in Family Practice for excellence in family medicine teaching and has served on the Virginia Department of Education Policy on Concussion for Student Athletes subcommittee. As part of his passion for caring for high school athletes, he continues to serve on the Virginia High School League Sports Medicine Advisory Committee and is the Atlee High School team physician. He is the co-developer of the Sideline Management Assessment Response Techniques (SMART) workshop, designed to appropriately evaluate and manage injuries on the athletic field and sidelines. He has authored or edited numerous articles and books about sports medicine. This will be his 26th year presenting at FMX, specializing in field-side management, casting and splinting, exam techniques, and joint injections.
Steven L. Cole, MEd, ATC

Cole Consulting Services, Inc., Williamsburg, Virginia

Cole earned his undergraduate degree from West Virginia University in Morgantown and his master’s degree from the University of Virginia. He has more than 40 years of health care and athletic administration experience, with more than 35 years of experience at the collegiate level. Prior to taking over the day-to-day operation of the College of William & Mary’s Athletics Department as the Associate Athletics Director, he led the college's sports medicine program for 26 years as the Director of Sports Medicine. For the past 28 years, he has coordinated the Performing Arts Sports Medicine Program for Busch Entertainment Corporation in Williamsburg, Virginia. He has also served as the affiliated clinical site coordinator for Riverside Family Medicine Residency in Newport News, Virginia, and as a clinical instructor for the post-professional Athletic Training Program at Old Dominion University in Norfolk, Virginia.

As the principal agent for Cole Consultant Services, Inc., Cole works with numerous athletic programs, medical practices, and industrial corporations. He is approved by the Board of Certification for the Athletic Trainer (BOC) as a provider for continuing educational programs for athletic trainers. For more than 35 years, he has conducted workshops on sports medicine topics for high school students, coaches, athletic trainers, physical therapists, and physicians. Notably, he co-developed the SMART (Sideline Management Assessment Response Techniques) workshop for primary care physicians to enhance their sports medicine skills and increase their confidence and competence as sideline physicians at sporting events. Cole has written clinical skills curricula for primary care physicians and published several articles relevant to athletic health care and the administration of health care programs. In addition, he is one of the authors of a book on the assessment of athletic training practical skills. A competitive age-group triathlete and experienced personal fitness consultant, Cole is also a nationally recognized expert on preparing athletic training students for their national certification boards, managing athletic injury insurance programs, and teaching on-field injury management skills to primary care physicians.
Mary Petrizzi, ATC

Mary Petrizzi is a certified athletic trainer from Richmond, Virginia. She received a Bachelor of Arts Degree in Theatre and Dance with a concentration in dance from James Madison University. She danced professionally for a year while preparing for graduate school. She attended Shenandoah University where she recently graduated at the top of her class with a Master of Science in Athletic Training and a Performing Arts Medicine Masters Certificate. She is currently working as an Assistant Athletic Trainer at Christopher Newport University.
Learning Objectives

1. Assess injured bones or soft tissue to determine the stage and severity of the injury and determine the most effective mechanism of treatment.

2. Compare the indications for using casts, splints or wrapping and taping.

3. Evaluate appropriate imaging modalities for patients with acute or chronic injuries that require diagnostic imaging evaluation.
Casting/Splinting in Family Medicine

• Musculoskeletal problems are common
  • 20% of all family practice visits
  • Overuse injuries
  • Sprains and strains
  • Fractures
Casting/Splinting in Family Medicine

- Exam above and below injured area
- Perform thorough neurovascular exam
- Document exam in chart
- Know your local standards and backup
Bone Injury General Comments

• Two Scenarios for bone injury
  • Overuse – repetitive micro-injury leads to stress fractures
  • Traumatic– injury force exceeds the strength of bone. Try to visualize how the force entered and exited the bone.

• Descriptions of fractures
  • Transverse – across bone
  • Oblique & spiral
  • Comminuted – fragmented
  • Compound – bone through skin
  • Avulsion – Pulled off by tendon
Greenstick Fracture
Dorsal Displacement and Volar Angulation of the Distal Radius
Using Fiberglass for Casting/Splinting

• Splinting
  - Fiberglass/padding splinting material
  - Elastic wrap

• Casting
  - Stockinette
  - Cast padding
  - Casting tape
Properties of Fiberglass
Casting/Splinting Material

• Hardens with water, even with ambient humidity
  - Keep material in packaging until ready to use
  - Can wet material with cool water to promote curing
• Be sure to clip fiberglass roll closed after cutting appropriate length
• Polymerization is exothermic
  - Be careful not to burn patient
Why Splint?

- Relieve pain
- Protect against further injury
- Prevent fracture displacement
- Cost effective/time efficient method for the busy family physician
When to Splint?

- **Overuse Injuries** to aid positioning and reduce movement
- **Sprains** to reduce pain, prevent injury, and speed healing
- **Fractures** accompanied by swelling
How to Splint

1. Proper preparation of splinting material
2. Proper elastic bandage technique
What About Prefabricated Splints & Braces?

1. Are they of any value?
2. Inventory
3. Insurance reimbursement issues
General Splinting Principles

• Measure and cut longer rather than shorter
• Wrap distal to proximal
• Overlap 50% when wrapping
• Molding splint to patient – critical for comfort and efficacy (no divots)
• Check with pt. after application for tightness
General Casting Principles

• Same generally as splinting
• Measure in “pyramid” fashion
  • Length - stockinette > cast padding > fiberglass
• Two layers of cast.
  • Make first cast layer.
  • Fold down stockinette/padding onto fiberglass layer
  • Add second layer of cast securing stockinette/padding
Coding and Reimbursement

• Use ICD-10 codes for diagnosis-eg. G56.00
• Use CPT codes for procedures-eg. 29125
• Use CPT for E/M Service same day as procedure-eg. 99213-25 (E/m plus modifier)
• Consider using Fracture Care codes-eg. 26600
References


• Plantar Fasciitis: A Prospective Randomized Clinical Trial of the Tension Night Splint, Batt, Mark E., Tanji, M.D., Jeffrey L., Skattus, M.D., Nina, Clinical Journal of Sport Medicine, Vol. 6, No. 3, pp. 158-160.


Splints

• Upper extremity
  - Sugar Tong
  - Volar
  - Thumb spica
  - Boxer/Ulnar gutter

• Lower extremity
  - Ankle stirrup
  - Posterior ankle
  - Three-way splint
  - Tension night splint
Upper Extremity Splints: Sugar Tong Splint (CPT 29105)

• 3"-4" splinting material, 2"-3" wrap

• Indications:
  • Distal radius/ulna fractures
  • Fractures of the wrist
Upper Extremity Splints:
Sugar Tong Splint Instructions

- **Position** - Elbow at 90°. No supination or pronation. Wrist slightly dorsiflexed
- **Measurement** - from MCP joint, around elbow to second palmar crease
- Keep fingers functional
- Mold around elbow and wrist → ellipse vs. circle
- Apply sling
Upper Extremity Splints: Sugar Tong Splint

• 3"-4" splinting material, 2"-3" wrap

• Indications:
  • Distal radius/ulna fractures
  • Fractures of the wrist
Upper Extremity Splints: Volar Splint (CPT 29125)

• 3"-4" splinting material, 2"-3" wrap

• Indications:
  • Wrist sprain
  • Carpal tunnel syndrome EBM-CME

• Tips:
  • Wrist in neutral/functional position
    ▪ Dorsiflexion
    ▪ "Handshake," "Can-carrying"
Carpal Tunnel Syndrome (ICD-10 Code G56.00)

• **History and Physical Pearls**
  - Overuse of wrist – long-term computer use vs. weekend gardener
  - Pain, paresthesias in median nerve distribution
  - Often occurs in evenings
  - Positive Tinel’s and Phalen’s signs
Volar Splint Instructions

- **Position** - Wrist slightly dorsiflexed 10-15°
- **Measurement** - splint from 2nd palmar crease up to mid forearm
- Fold away from palm at thumb
- Mold at wrist
Volar Splint: Application Process
Upper Extremity Splints: 
Thumb Spica Splint 
CPT 29105 (Long Arm) 
CPT 29125 (Short Arm)

• 3"-4" splinting material, 2"-3" wrap 
• Indications:
  • R/O Navicular fracture 
  • deQuervain's tenosynovitis 
  • "Gamekeeper's thumb" (ulnar collateral ligament injury)
R/O Navicular (Scaphoid) Fracture (ICD-10 Code S62.001A vs S67.31XA)

- **History and Physical Pearls**
  - 70% of wrist fractures (most common missed fracture in UE)
  - FOOSH
  - Tenderness in anatomic snuffbox
  - Radiographs may not indicate fracture immediately
R/O Navicular Fracture
Thumb Splint Timeline

• Initial Follow-up: 2wks

• Follow-up x-ray: 2wks until dx confirmed (bone scan at 4wks if plain films still negative)
Thumb Spica Splint Instructions: R/O Navicular Fracture

- Goal – prevent flexion of thumb; pronation/supination of wrist
- Splinting technique – complex involvement of IP joint as well as wrist
Thumb Spica Splint Instructions: R/O Navicular Fracture (CPT 29105)

- **Position** - Wrist slightly dorsiflexed
- **Measurement** – tip of thumb, underneath thenar eminence continue as with sugar tong and wrap around elbow back up to dorsal wrist at MCP joint.
- Keep thumb functional – pen hold
- Mold around thumb, wrist, forearm
Thumb Spica Splint: 
Application Process for R/O Scaphoid Fracture
DeQuervain’s Tenosynovitis (ICD-10 Code M65.4)

• History and Physical Pearls
  • Often due to overuse of first dorsal compartment/thumb
  • Pain and crepitus in first dorsal compartment
  • Positive Finskelstein’s sign
  • Must take radiograph’s R/O Navicular fracture
DeQuervain’s Tenosynovitis
Thumb Spica Splint CPT 29125 (Short Arm) Instructions:

- Goal – prevent extension of thumb
- Splinting technique – support dorsally
- Measurement – tip of thumb to three finger breadths below antecubital fossa
Thumb Spica Splint: Application Process for DeQuervain’s Tenosynovitis
Gamekeeper’s Thumb/Skier’s Thumb (Ulnar Collateral Ligament Injury) (ICD-10 Code S63.649A)

• History and Physical pearls
  – Sudden forceful abduction/valgus stress of the MCP
  – Maximal tenderness over the ulnar aspect of the MCP
  – Often weakness with grasp/pincer movements
  – Must radiograph before PE performed
Thumb Spica Splint (CPT 29125)
Instructions:
Gamekeeper’s Thumb

• Goal – prevent radial deviation of thumb
• Splinting technique – radial gutter
• Measure from tip of thumb to distal third of forearm
Thumb Spica Splint: Application Process for Ulnar Collateral Ligament Sprain
Upper Extremity Splints: Boxer/Ulnar Gutter Splint (CPT 29125 vs 29130)

- 4"-5" splinting material, 3"-4" wrap
- Indications:
  - 4th and 5th metacarpal fractures
- Tips:
  - Wrist in functional position
  - Flex 90 degrees at 4th & 5th MCP joints (boxer)
  - Padding between fingers
  - Can tolerate 35-40 degrees of angulation with boxer's fracture
Boxer’s Fracture
(ICD-10 Code S62.369A)

- **History and Physical Pearls**
  - Often secondary to punch
  - Tolerant fracture in an intolerant individual
  - Check for rotational deformity
Boxer/Ulnar Gutter Splint
(CPT 29125 vs 29130)

Timeline

- Initial Follow-up: 1 wk
- Total time immobilized: 2-3 wks
- Total healing time: 4-6 wks
- Follow-up interval: 2 wks
Boxer/Ulnar Gutter Splint Instructions

- Position the hand with the MCP flexed and the wrist at 10-15 degrees dorsiflexion.
- Measurement - from tip of 5th finger to distal third of forearm
- Pad 5th digit to avoid maceration
- Apply splint then flex MCP, dorsiflex wrist → bunny position
- Reduce fracture – three point technique
- Mold around fingers and wrist
Ulnar Gutter Splint: Application Process
Lower Extremity Splints:  
CPT 29515  
Ankle Stirrup (Sugar Tong) Splint

• 4" splinting material; 6" wrap

• Indications:
  • Ankle sprain EBM-CME
  • Ankle fracture

• Tips:
  • Ankle in neutral position (dorsiflex to 90 degrees)
  • Mold splint over ankle snugly
  • Additional padding over ankle is optional
  • After initial treatment rapid remobilization
Ankle Sprain
(ICD-10 code S93.40)

• History and Physical Pearls
  • Most common mechanism is inversion with plantar flexion
  • Most commonly injured ligament is anterior talofibular ligament
  • Interosseous membrane tears (“high ankle sprain”) can be ruled out with careful palpation.
  • Remember the Ottawa Ankle Rules
Lower Extremity Splints: Ankle Stirrup/Sugar Tong Instructions

• **Position** - Knee and ankle at 90 degrees of flexion/dorsiflexion. No pronation or supination.

• **Measurement** - splint two fingers below the fibular head on the lateral foreleg, under the heel, back up the medial leg to the same height on lateral side

• Mold the splint around the calcaneus, malleoli and lower leg
Ankle Stirrup Splint: Application Process
Lower Extremity Splints: Posterior Ankle Splint

• 4"-5" splinting material; 6" wrap

• Indications:
  • Ankle sprain/fracture
  • Tibia/fibula fracture
  • Metatarsal fracture

• Tips:
  • Ankle dorsiflexed to 90 degrees
  • Fold excess splinting material to outside of heel
  • Mold splint
Posterior Ankle Splint Instructions

• **Position** - Knee and ankle at 90 degrees of flexion/dorsiflexion. No pronation or supination.

• **Measurement** – 2” from popliteal fossa to plantar surface of metatarsal heads or great toe

• Mold around calcaneus and lower leg
Posterior Ankle Splint Application Process
Lower Extremity Splints: Three-Way Splint

• 4"-5" splinting material; 6" wrap
• Indications:
  • Ankle sprain/fracture
  • Tibia/fibula fracture
• Tips:
  • Use cast padding with three-way splint to prevent edema
Lower Extremity Splints: Three-Way Splint Instructions

- **Position** - Knee and ankle at 90 degrees of flexion/dorsiflexion. No pronation or supination.
- **Measurement** - same as for LE sugar tong for lateral/medial piece (can split this piece under foot); from 3 finger breadths below the fibular head to 2 finger breadths beyond the great toe.
  - Cast padding around malleoli can prevent edema
- **Apply Sugar Tong portion first**
- **Mold around Achilles, malleoli, arch, leg**
Lower Extremity Splints:
Tension Night Splint
CPT 29515

- Modified posterior ankle splint
- 4"-5" splinting material; 6" wrap; adhesive tape
- Indication: Plantar fasciitis EBM - CME
- Tips:
  - Fold splinting material in half
  - Apply under 1st, 2nd, and 3rd toes
Plantar Fasciitis  
(ICD-10 Code M72.2)

• History and Physical Pearls
  - Pain – often electric over plantar fascia; often worst at heel
  - Worst upon taking first step of morning, after prolonged rest, or at beginning of run
  - Can affect both flat feet and high arch
Lower Extremity Splints:
Tension Night Splint
CPT 29515

• Tips (continued):
  • Allow splinting material to extend beyond 1st toe
  • Ask patient to flex at knee in order to maximally dorsiflex at ankle
  • Dorsiflex at 1st MTP joint
  • Well molded arch
Posterior Tension Night Splint Instructions

- **Position** - Knee flexed 90 degrees, ankle maximally dorsiflexed, foot in neutral position, and great toe maximally dorsiflexed
- **Measurement** – splint 3 finger breadths below the fibular head to the tip of the great toe
- **Mold** – especially underneath arch
Posterior Tension Night Splint Type 1
Posterior Night Splint
Casts

- Upper Extremity
  - Short Arm Cast
  - Thumb Spica Cast
- Lower Extremity
  - Short Leg Cast
Casts:
Short Arm Cast  CPT 29075

• 2"-3" stockinette; 2"-3" cast padding; 3" casting tape (2 rolls)

• Indications:
  • Nondisplaced radius/ulna fracture

• Tips:
  • Wrist in neutral position
  • Roll up and apply stockinette from beyond fingertips to elbow
  • Can cut small hole for thumb
Torus Fracture
ICD-10 Code S552.119A

• History and Physical Pearls
  . FOOSH – running, sports, skating
  . Pain at sight of fracture
  . Often nondisplaced/ no deformity
Torus Fracture – Short Arm Cast (CPT 29075)
Timeline

- Initial Follow-up: 3 days
- Total time immobilized: 2-4wks
- Total healing time: 4wks
Short Arm Cast: Application Process
Short Arm Thumb Spica Cast
(CPT Code 29085)

• **Indications:**
  • Gamekeeper’s thumb/Skier’s thumb (ulnar collateral ligament injury)
  • (ICD-9 code 842.12)
    As described previously
Short Arm Thumb Spica Cast Instructions

- **Position** – as for short arm
- **Measurement** - as short arm → put small stockinette on thumb
- Keep thumb functional → not spiked up
- Mold in elliptical fashion. Shake hands with patient to mold hand.
Short Arm Thumb Spica Cast: Application Process
Long Arm Thumb Spica
CPT 29065

• **Indications**
  - Navicular Fracture
Navicular Fracture
(ICD-10 Code S62.001D)

• History and Physical Pearls
  • Most common carpal fracture
  • Frequently results in displacement
  • Tenderness in the anatomic snuff box
  • ROM is reduced but not drastically; pain is usually at the extremes of motion
  • Always suspect even though findings may be identical to ligamentous injury
Navicular Fracture Long Arm Thumb Spica Cast Timeline

- Initial Follow-up: 1-2wks
- Total Time Immobilized: Distal and Middle third 10-12wks
  - Proximal 12-20wks
- Healing time: Distal and Middle third 12-14wks
  - Proximal 18-24wks
- Follow-up interval: 2-3wks
- Follow-up x-ray: 2-3wks until confirmed radiographic union
**Long Thumb Spica Cast (CPT 29065 ) Instructions**

- **Position** - Elbow flexed at 90°, neutral supination-pronation with radial side up, neutral - slightly extended wrist, and a functional bend of the thumb CMC joint somewhat abducted, MCP joint and IP joints at approx. 20° flexion
- **Measurement** – stockinette from 3\(^{rd}\) digit PIP to axilla (cut hole for thumb – small stockinette for thumb), cast roll from 2\(^{nd}\) palmar crease 1 finger breadth below deltoid insetion
- Keep thumb functional → not spiked up
- Mold in elliptical fashion, shake hands with patient to mold around hand
Long Arm Thumb Spica: Cast Padding and Final Product
Casts: Short Leg Ambulatory Cast
CPT 29425

- 3"-4" stockinette; 3"-4" cast padding; 3"-4" casting tape (3-4 rolls)

Indications:
- Distal fibula fracture
- Avulsion fracture @ base of 5th metatarsal
- Later phase of treatment for Jones fracture (stress fracture of shaft of 5th metatarsal)
Distal Fibular Fracture  
(ICD-10 Code S82.401D)

- **History and Physical Pearls**
  - Blow to lateral leg → high-velocity impact sports
  - Pt. often hears a “pop”
  - Pain and tenderness over the fracture site
Isolated Fibula Fracture: Short Leg Cast Timeline

• Initial Follow-up: 3-5 days
• Total Time Immobilized: 3-4wks
• Healing time: 6-8wks
• Follow-up interval: 3-4wks
• Follow-up x-ray: 6-8wks
Non-displaced Metatarsal Fracture (ICD-10 M84.376D)
Short Leg Walking Cast Timeline

• Initial Follow-up: 3-5 days (24 hours if casted initially)
• Total Time Immobilized: 2-3wks in cast
  • 4-6wks in firm shoe
• Healing time: 6wks
• Follow-up interval: 1-2wks
  • q2-4wks after cast removed
• Follow-up x-ray: Initially 7d
  • q4-6wks after initial
Non-displaced Metatarsal Fracture: Short Leg Non-Weight Bearing Cast CPT 29405

- Initial Follow-up: 3-5 days (24 hours if casted initially)
- Total Time Immobilized: 2-3wks in SLNWBC
  - 3-4wks in SLWC
- Healing time: 6-8wks
- Follow-up interval: 1-2wks
  - q2-4wks after cast removed
- Follow-up x-ray: Initially 7d
  - q4-6wks after initial
Avulsion Fracture  
(ICD-10 Code S92.309A)

- **History and Physical Pearls**
  - Most common fracture of the lower extremity
  - Mechanism of injury is the same as an inversion ankle sprain and physical exam findings are similar as well.
  - Difficult to identify on x-ray, leading to misdiagnosis
  - Avulsion - pull of the lateral band of the long plantar ligament (most common) or the peroneus brevis tendon
  - Fractures usually heal well with minimal conservative treatment
Avulsion Fracture 5th Metatarsal
Proximal Metatarsal Fracture of 5th Metatarsal - Metaphyseal-Diaphyseal junction: Jones’s fracture (ICD-10 Code S92.309A)

• History and Physical Pearls
  - Sudden force to the lateral aspect of the distal fifth metatarsal - stumble and catch oneself on side of the foot.
  - May present as a stress fracture – may only become symptomatic after an inversion injury.
  - Direct blow is a less common cause
  - Distinct point tenderness in 5th metatarsal in proximal third of the bone, but not at the base.
  - Patients are usually unable to bear weight
  - Therefore SLNWB CPT 29405
Proximal Metatarsal Fracture of 5th Metatarsal - Metaphyseal-Diaphyseal junction: Jones’s fracture (4,11,20,21,22)
5th Metatarsal Avulsion vs. Jones Fracture

Avulsion

Jones
Short Leg Ambulatory Cast  
(CPT code 29425 ) Instructions

• **Position** – Knee at 90 degrees. Ankle at 90 degrees. No pronation/supination.

• **Measurement** - Apply stockinette from beyond tips of toes to knee. Apply cast padding from metatarsal heads to 3 finger breadths distal to fibular head.

• Mold around malleoli, calcaneus, lower leg, arch and make triangular mold around the anterior tibia and foreleg
Short Leg Cast:
Application Process
Wrapping and Taping

- Knowledge of specific wrapping and taping techniques and their indications is useful for providing comprehensive primary health care

- Appropriate use and application of:
  - Compression wrap
  - Hip Flexor Spica
  - Patella Tendon check strap
  - Longitudinal Arch taping
Compression Wrap

• Indications:
  • Prevent swelling of a joint

• Position:
  • Seated

• Supplies:
  • Cast padding
  • Underwrap
  • Ace Wrap

• Techniques:
  • Generously apply cast padding material from the distal to proximal aspects of the joint
  • Cover with a generous layer of underwrap, distal to proximal
  • Cover with an ace wrap, distal to proximal
Compression Wrap
Hip Flexor Spica

• Indications:
  • Hip Flexor Strain

• Position:
  • Standing, hip in slight flexion, foot/lower leg in neutral position

• Supplies:
  • 6 inch Ace Wrap

• Techniques:
  • Begin at Proximal thigh, wrap down midway (pull out), and back up to hip
  • Continue wrapping around waist (pulling up and out)
  • Repeat until wrap is gone.
Hip Flexor Spica
Patella Tendon Check strap

- Indications:
  - Patella Tendonitis
- Position:
  - Standing, hip in slight flexion, foot/lower leg in neutral position
- Supplies:
  - Underwrap

- Techniques:
  - Apply multiple (8 to 10) layers of underwrap between the distal patella and the superior tibial tuberosity
  - Roll together into a band
Patella Tendon Check strap
Longitudinal Arch Taping

- **Indications:**
  - Numerous Hip, Knee, Lower Leg and Foot injuries
- **Position:**
  - Seated, ankle/foot slightly plantar flexion
- **Supplies:**
  - 1 inch adhesive tape
- **Techniques:**
  - Anchor along plantar surface of metatarsal heads
  - Begin at medial (1st metatarsal) head, anterior-posterior, around heel, diagonally along plantar surface
  - Repeat starting from 3rd metatarsal and then 5th metatarsal heads.
  - Repeat a second time, covering plantar surface
  - Close with overlapping strips, pull lateral to medial
Longitudinal Arch Taping
Longitudinal Arch Taping
Casting/Splinting: Summary

- Family physicians see, diagnose and treat many common musculoskeletal conditions
- Knowledge of casting/splinting techniques and their indications is useful for providing comprehensive primary health care
- Knowledge of coding and reimbursement can make treatment affordable
Wrapping and Taping:
Summary

• Although more frequently done by Athletic Trainers, Family Physicians can learn how to properly wrap or tape many joints and help their patients return to activity sooner.