

McConnell and Kinesiotaping in Physical Therapy



- July 24, 2014
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Objectives

- Discuss the rationales behind McConnell taping and Kinesiotaping
- Discuss common taping techniques used in the clinical setting
- Be able to discuss and practice taping techniques to improve muscle flexibility and restore better joint mechanics



McConnell Taping

- **Origin**

- Invented by Jenny McConnell, a PT from Australia
- Originally used for patellar tracking and pain reduction

- **Characteristics of McConnell Taping**

- **McConnell Tape (Leukotape)**

- Non-latex
- Resistant to tearing
- Strong zinc oxide adhesive
- Rigid and non-elastic
- Often used with Cover Roll Stretch, a non-latex material placed down on skin to help protect from the more abrasive Leukotape



McConnell Taping

- **Four Possible Therapeutic Effects**

- Proprioceptive feedback
 - A pulling sensation during movement works as a reminder for the patient to temporarily avoid that motion.
- Soft-tissue unloading
 - May decrease pressure/compressive forces on the nociceptors directly deep to the skin.
- Neural tissue unloading
 - Provides proprioceptive feedback and may also help decrease traction forces placed on the sensitized neural tissue.
- Bracing
 - Temporarily limit peripheral joint or spinal mobility.



Why Kinesiotape is Different....

- Developed in 1973 in Japan by Dr. Kenzo Kase, D.C.
- **Rehabilitative** – Dr. Kase wanted a “prescription” that they could take home and use between visits
- Kinesiotape has 10% stretch on it which allows the CNS to monitor while it is applied
- Only stretches along a longitudinal axis
- Thickness and weight of the tape are very similar to skin
- Non-latex!!! Kinesiotape uses an acrylic adhesion
- Long wear time of 3-5 days, well tolerated, and water resistant
- Can be used along with other modalities in clinic



Concepts of Kinesiotape

- ▶ Inhibition- stimulus provided to relax muscle
 - elongating muscle
 - pull tape from distal to proximal
 - 15-25% tension
- ▶ Facilitation – stimulus to activate a muscle
 - pull tape from proximal to distal
 - 15-50% tension
- ▶ Mechanical Correction “positional hold”
 - 50-75% tension
 - holds joint in desired resting position
 - helps decrease forces on soft tissues structures
 - Be sure to preposition the joint , then tape.
 - NEVER use tape to put a patient in a position

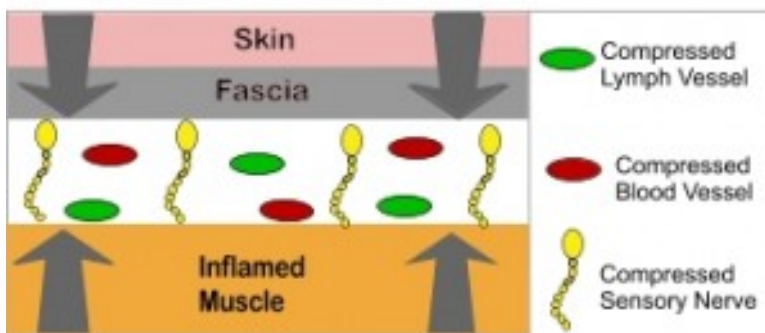
Concepts of Kinesiotape cont.

- ▶ Compression/Pain relief
 - lifts fascial tissue
 - increases circulation & decreases pain
 - often used on trigger points
 - 75-100% tension
- ▶ Swelling/"channeling"
 - lifts skin causing convolutions - increases lymph drainage
 - creates channeling of high and low pressure to congested areas
 - enhances fluid exchange between tissue layers
 - 0-15% tension
- Reminder: When applying kinesiotape, the joints should be positioned in full available ROM and the tissues should be on stretch

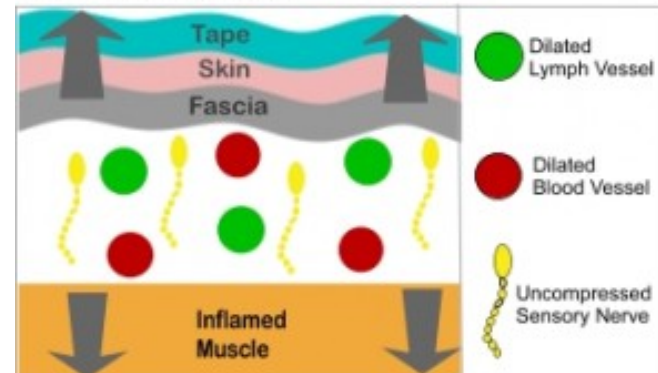
Additional Info on Edema Reduction & Bruising

- Can be applied to any area of the body
- Lymphatic vessels normally drain any excess fluid, however with increased inflammation the vessels can become compressed and not drain properly
- Proximal to distal with 0-15% tension
- Tape creates a gentle lift on the skin and stimulates the blood and lymphatic vessels to drain fluid away from inflamed area
- Decreases in circumferential measures can be seen after one treatment

Without Kinesiology Tape



With Kinesiology Tape



Additional Info on Edema Reduction & Bruising

- Dramatic results on bruising. . . You can tell it's working!



Helpful Hints



Hints and Tips

- Round the ends of the tape – helps to prevent fraying and clothes from attaching to the tape
- Clean skin with alcohol to remove oil, sweat or lotion and allow better adhesion to skin
- Remove excessive hair to allow better adhesion
- After tape is in place, activate the heat-sensitive glue by rubbing up and down surface of the tape (2minutes!)
- Apply approximately 1 hour prior to activity or shower to allow glue to adhere properly
- Can use baby oil to assist in adhesive/tape removal



Contraindications & Precautions

- DVT
- Open Wounds
- Infection
- Fragile/Sensitive skin
- Heart Failure – CHF with edema
- Respiratory conditions
- Diabetes (if sensory issues are present)
- Kidney Disease



Contraindications & Precautions

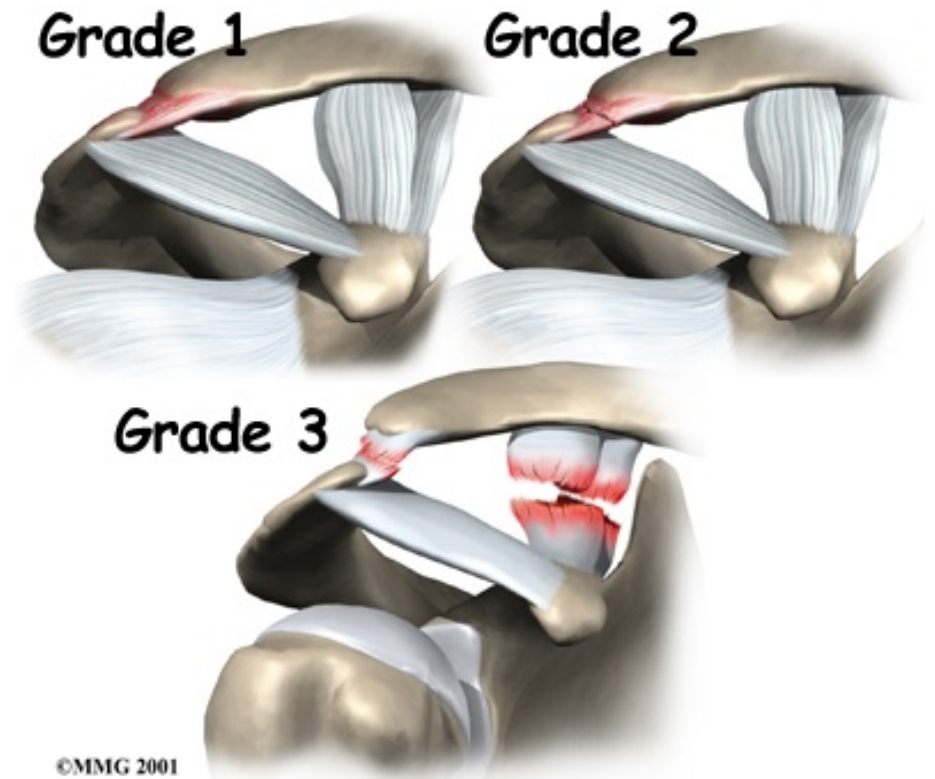
- Be careful on the medial side of the elbow due to ulnar nerve
- Never facilitate over a pregnant abdomen
- Consult with oncologist before using on patients undergoing cancer treatment - Do NOT want to promote lymph movement
- Remove tape carefully when applied over an area of impaired sensation
- If skin becomes irritated, remove immediately

McConnell Taping



AC Joint Sprain

- Can help “reapproximate” the AC joint.
- Bracing effect



AC Joint Sprain

- Start at the deltoid tuberosity pulling past the spine of the scapula
- Start on the coracoid process pulling to the spine of the scapula
- The crossing strips should be over the AC joint



Mid-Thoracic Pain/ Postural Feedback

- Provides proprioceptive feedback to avoid sustained and excessive thoracic flexion
- May work with cervical, thoracic, or shoulder pain related to improper thoracic posture
- May limit thoracic rotation

Standing Poor Posture



Standing Good Posture





Mid-Thoracic Pain/ Postural Feedback

Thoracic Pain

- Pull both of the tapes cranially and ensure convolutions are formed under brown tape
 - The center of the “X” is to be on the most painful/tender level

Postural Feedback

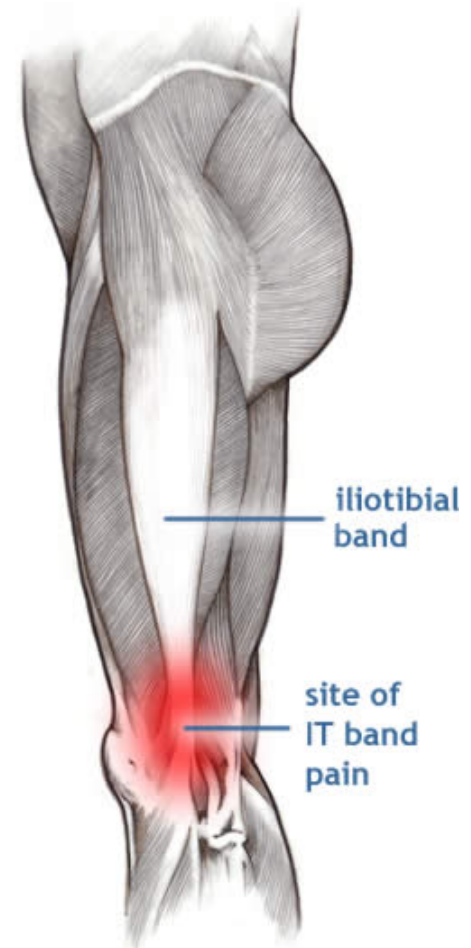
- Pull both the tapes caudally and manually facilitate scapular retraction and depression

Mid-Thoracic Pain/ Postural Feedback

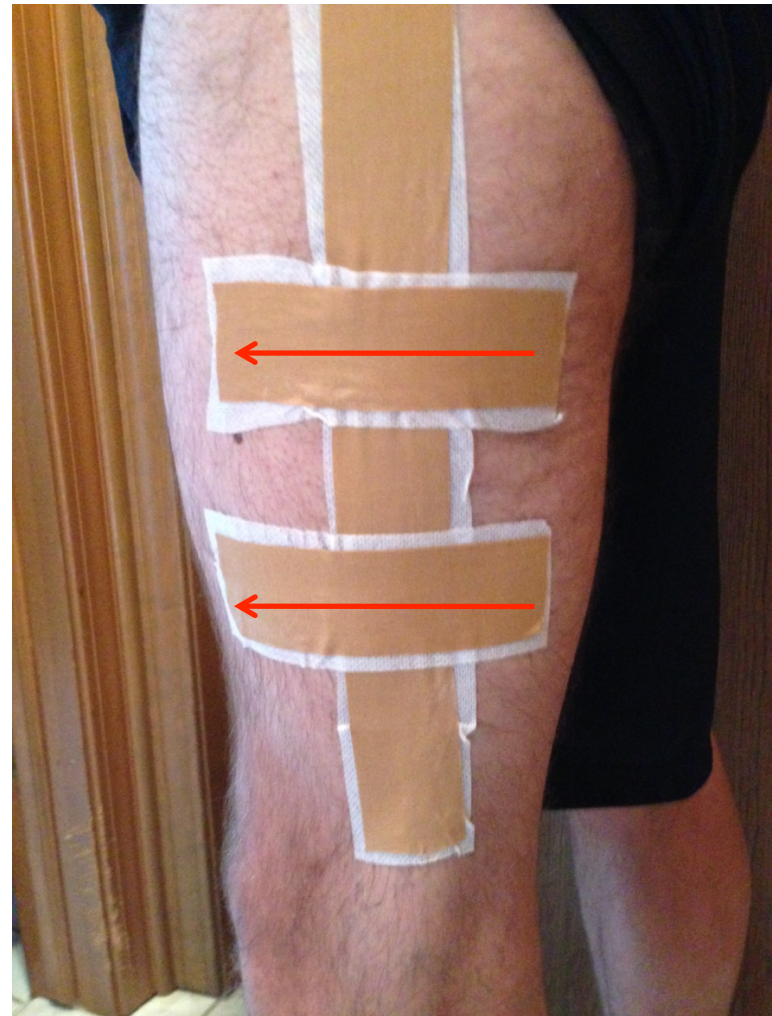


IT Band Unloading

- Applying in standing, hip slightly ER
- Start tape from distal ITB and pull firmly cranially
- Make sure wrinkles are formed in leukotape
- For added unloading, you can apply horizontal strips along the length of the IT band, apply these strips from posterior to anterior thigh



IT Band Unloading

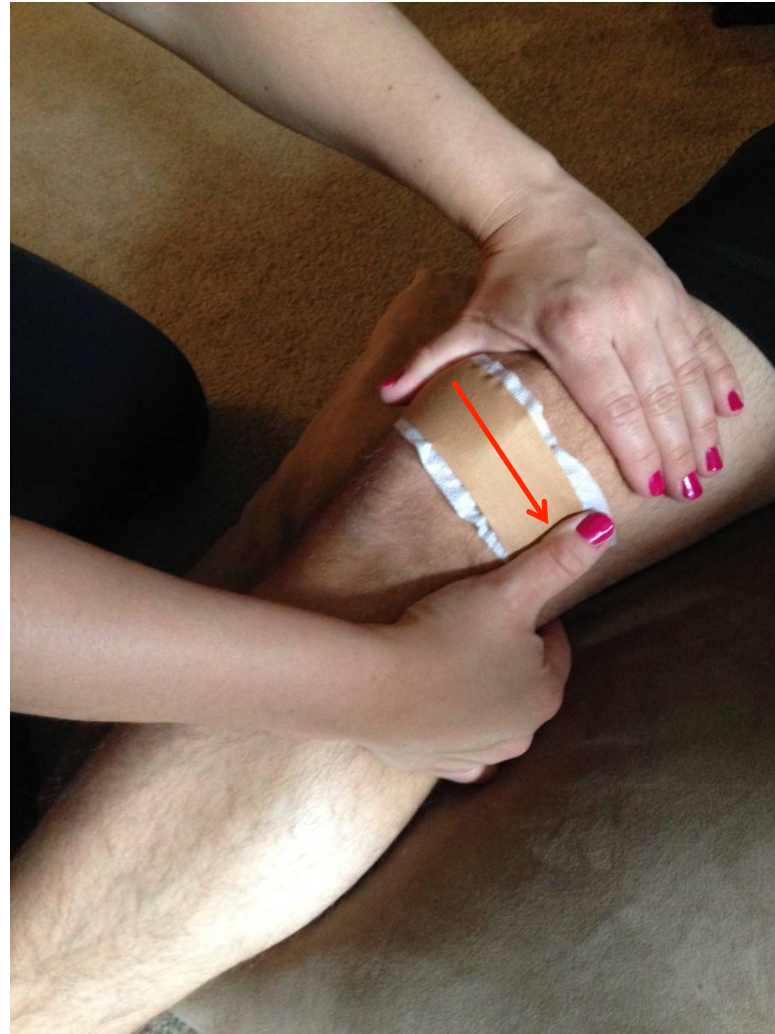


Medial Patellar Gliding

- Supine or long sitting with knee slightly bent
- Lay down cover-roll from lateral aspect of the patella to the midline of the medial knee
- Secure leukotape to lateral aspect of patella and using thumb, push patella medially as you pull the tape with moderate force medially
- Should see small, consistent wrinkles in the skin



Medial Patellar Gliding





Posterior Distal Fibular Glide

- Start with patient supine with knee flexed and ankle in DF position
- Apply cover-roll on anterior lateral malleolous and gently pull posterior and slightly superior
- Leukotape is then placed on top and the therapist pushes the malleolus posterior and slightly superior
- Helps for acute ankle sprains as well as decrease edema distally

Posterior Distal Fibular Glide



Navicular Sling

- Start with patient supine with knee extended, foot and ankle over the edge of the table and foot in supinated position
- Therapist stands at the foot of the table, facing plantar aspect of the patient's foot
- Therapist starts tape on the plantar aspect of the navicular bone and wraps it medially and then dorsally onto the top of the foot and anterior ankle



Navicular Sling



Now for some Kinesiotaping. . .





Upper Trapezius Inhibition

- I-strip
- Inhibition- distal to proximal
- Begin with neck in neutral position
- Place anchor at 1st rib with no tension
- Scalene stretch -Have patient laterally flex away and rotate towards ipsilateral side
- 15-25% tension
- End with no tension and activate adhesive

Upper Trapezius Inhibition

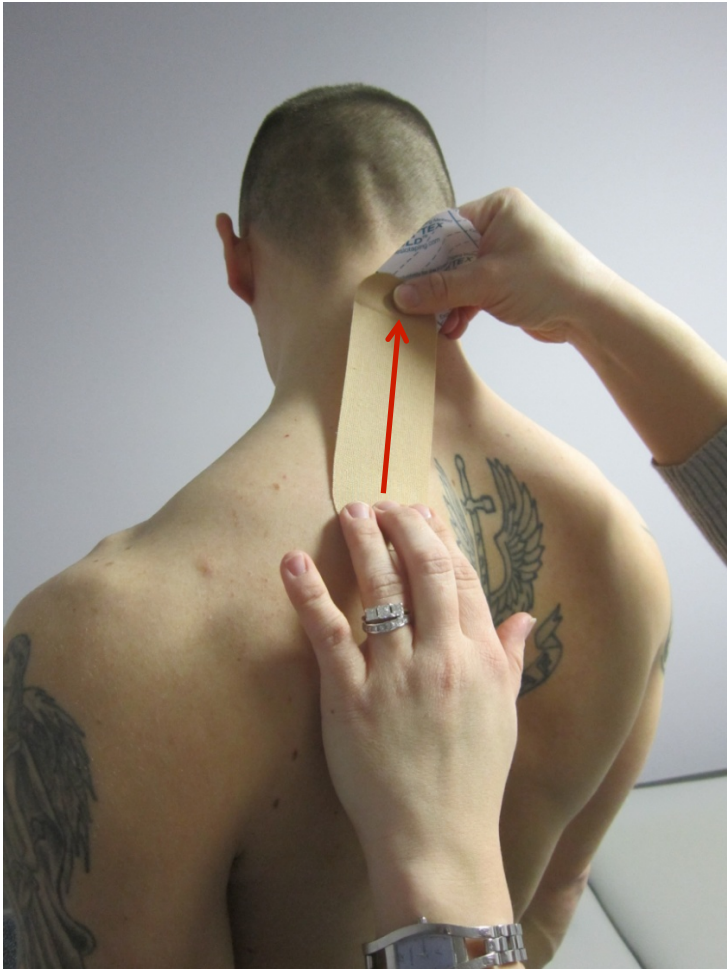




Levator Scapulae Inhibition

- I-strip
- Inhibition- distal to proximal
- Begin with neck in neutral position
- Place anchor at 1st rib with no tension
- Scalene stretch -Have patient laterally flex away and rotate towards ipsilateral side
- 15-25% tension
- End with no tension and activate adhesive

Levator Scapulae Inhibition



Shoulder Pain

- A combination of 3 different taping applications to achieve desired result of correcting mechanics and reducing inflammation to decrease pain
- Y- strip
 - Anchored on the deltoid
 - Each tail is pulled distal to proximal with ~50-75% stretch
 - Arm is supported and horizontally adducted (in pain free ROM) to place posterior tail
 - Arm is horizontally abducted to place anterior tail



Shoulder Pain

- Compression Strip
 - A short “I” strip is applied with 75-100% stretch over bicep tendon (long head) near the origin
 - Allows increased circulation and decreased pain
 - Strip could be applied at any area of pain/tendon irritation



Shoulder Pain

- Posture Control Component
 - The shoulder girdle and/or the scapula alone is prepositioned in a desirable alignment
 - A long “I” strip is applied, starting at the anterior GH jt and wrapping posteriorly & medially, down across the scapula following the fibers of the lower trap
 - 50-75% stretch is utilized
 - Holds the shoulder girdle in a desirable resting position to maintain proper posture





Lateral Epicondylitis (Tennis Elbow)

- Inhibition taping of wrist extensors
- “Y” strip anchored at dorsal wrist or over two middle fingers using “button hole” technique
- Wrist in full flexion & elbow in full extension (can add ulnar deviation too)
- Bring tails up distal to proximal, around wrist extensor muscle bulk, meeting at lateral condyle
- 15-25% stretch applied to tape
- Compression strips can be added over tender spots

Lateral Epicondylitis (Tennis Elbow)





Low Back Pain

- Two inhibitory “I” strips are placed parallel to the spine
 - Patient should be prepositioned in maximal amount of lumbar flexion that is comfortable
 - Anchor one strip at PSIS and draw distal to proximal along the lumbar paraspinals on that side
 - Repeat same process on contralateral side of spine
 - 15-25% stretch applied to inhibit/relax lumbar extensors
- Compression Strips can be added at trigger points/ tender spots
 - 75-100% stretch
 - Can be applied in a “star” pattern for increased fascial lift and efficacy of pain relief

Low Back Pain





Knee Pain

- Another combination taping, where the components can be used together or separately as needed
- Joint Approximation
 - Knee prepositioned in comfortable end ROM flexion
 - “I” strips are applied medial and lateral to patella
 - Anchored at joint line with no stretch on tape
 - Pull top portion of tape proximally with 50% stretch
 - Pull bottom portion distally with 50% stretch
 - No stretch on the last 1 ½” to 2” of each end of each strip



Knee Pain

- Patellar tracking
 - “Y” strip anchored at medial knee
 - Patella repositioned in desired alignment
 - Tails surround patella and meet/overlap at lateral patellar border
 - 15-50% stretch applied



Knee Pain

- Quadriceps Activation
 - Proximal to distal
 - 15-50% stretch
 - Rectus Femoris
 - “Y” strip with long straight section and small tails at one end
 - Anchor at ASIS and draw distally toward patella
 - Wrap tails around patella, meeting at tibial tuberosity
- Vastus Medialis Obliquus (VMO)
 - Two “I” strips
 - Proximal to distal following fibers of VMO & medialis
 - Assists in proper patellar tracking

Knee Pain



VMO Activation





Edema Reduction & Bruising

- Applied proximal to distal
- 0-15% tension on tape
- Cut strip of tape into 3 or 4 “fingers” that can fan out over swollen/bruised area
- Can overlap 2 or 3 of these strips to create a “basket weave” pattern

Edema Reduction

Knee



Ankle



Acknowledgments

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Questions?



Have a great day!!!!



No...I insist...Thank You!