

The JEPster Tape/Strapping Procedure

For the Treatment of
Medial Posterior Tibial Stress Syndrome

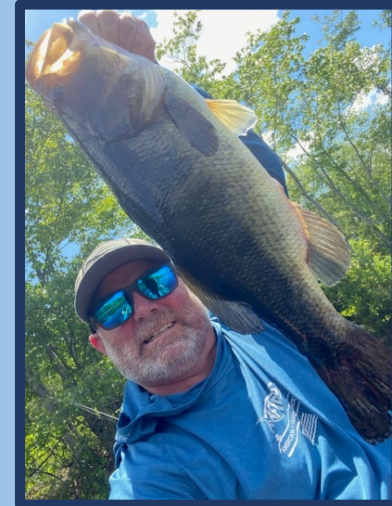
(“Shin Splints”)

Kip Patterson ATC/L, CSCS



Disclosures:

**Not Affiliated or Sponsored by Any
Products Discussed in this Presentation**



Introductory Rant

**Certified Athletic Trainer
Health Care Professional**

**Clinicians Scientists
Inventors Mechanics
Engineers Artists Psychologists**

Sport Medicine Wizards



“Shin Splints”

Medial Tibial Stress Syndrome

Labeled as an “Over Use” Injury

**Why are Some Athletes
more prone to MTSS?!!?**

**Perhaps Investigate the
Crime Scene and Address
the “Over Abuse”**



Forrest Gump



Causes for “Shin Splints”

Medial (Posterior) Tibial Stress Syndrome

1. Under Training

2. Over Training

3. Training Errors

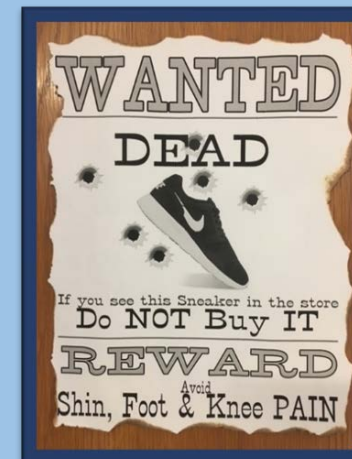
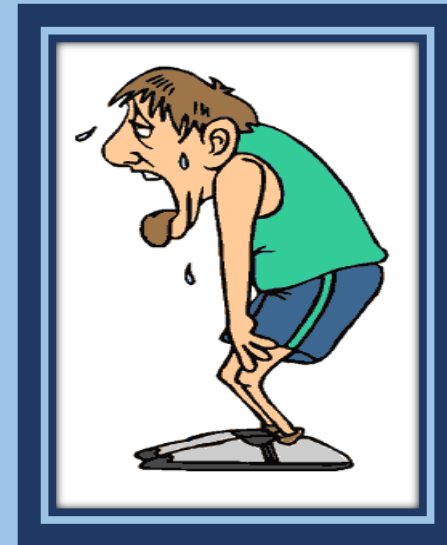
Shoes

Running/Jumping Surface

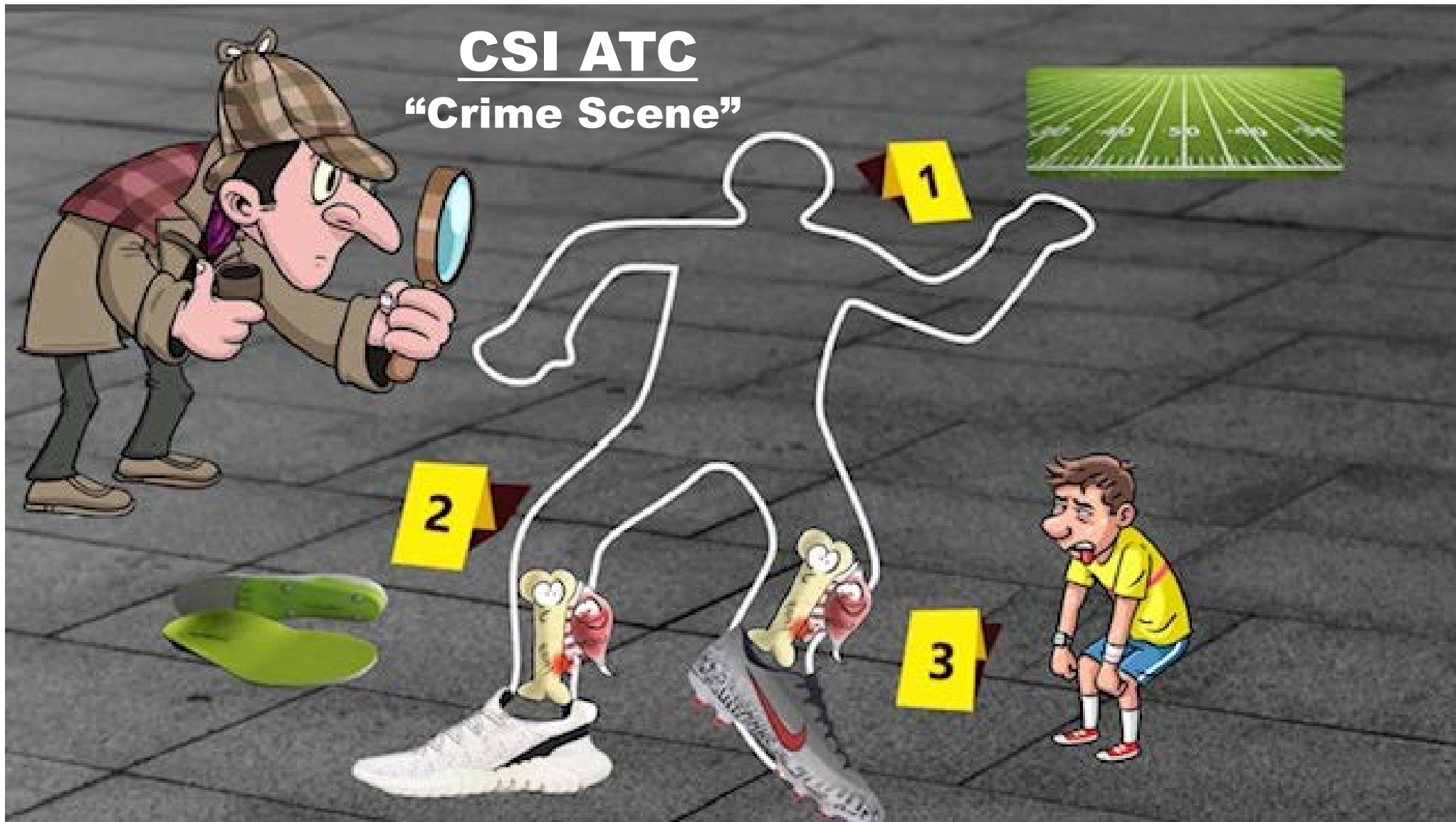
Sudden Increase in Training

Insufficient Recovery Time

4. Biomechanical Abnormalities

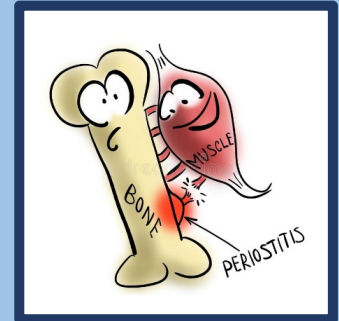


CSI ATC "Crime Scene"



Symptomatic Warning Signs for MTSS

Periostitis – Inflammation of the Layer of Connective Tissue (Periosteum) that Surrounds the Bone



Stage 1 – Pain or Discomfort which Disappears During Warm Up

Stage 2 – Pain or Discomfort which Disappears During Warm Up but may Return After Activity

Stage 3 – Pain or Discomfort which gets Worse During Activity

Stage 4 – Constant Pain or Discomfort



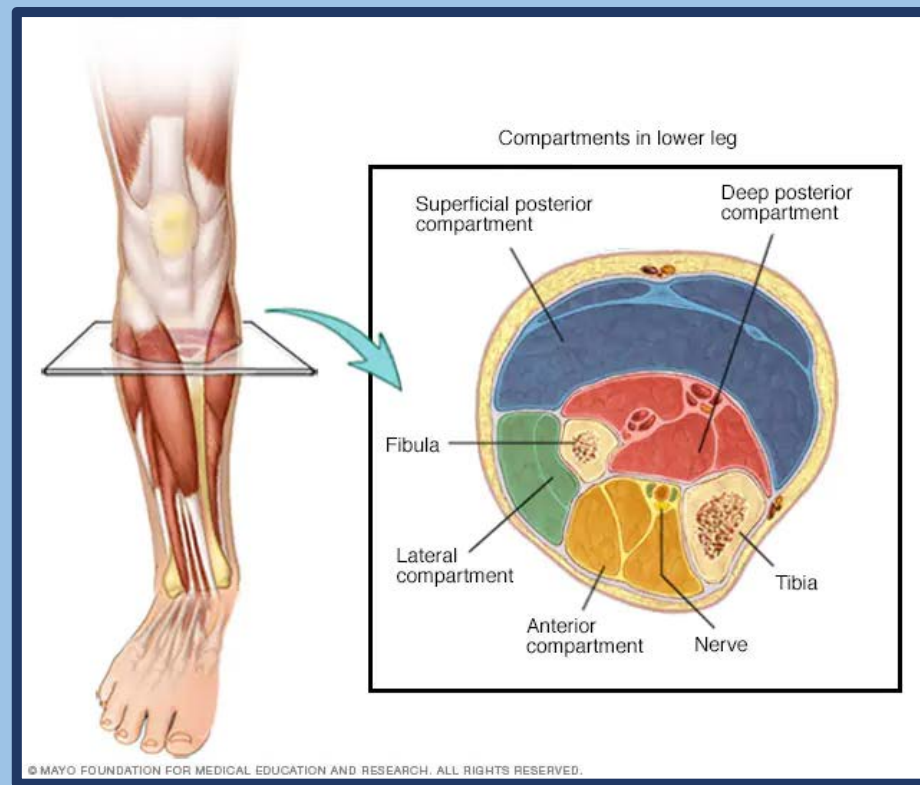
Compression Leg Sleeves



**Why are we Cramming an
already Inflamed and/or
Hypertrophied Muscle
Group into a Smaller,
Confined Space?!?**



Cross Section of the Muscular Compartments of the Lower Leg



Quick Side Bar:
Same Church, Different Pew...

Lower Leg Cramps

- 1) Water**
- 2) Pickle Juice**
- 3) Mustard**



Internal HEAT

**Sitting on the Ground,
Place 2-3 Ice Bags
Anterior and Posterior
on Calf and Shin
for 1-2 Minutes**



**Then Slowly
Walk and Build
Up to a Jog**

Activity Modification and Modalities





Joe Extraordinaire ATC



THE "EVOLUTION" OF SHIN SPLINT TAPING

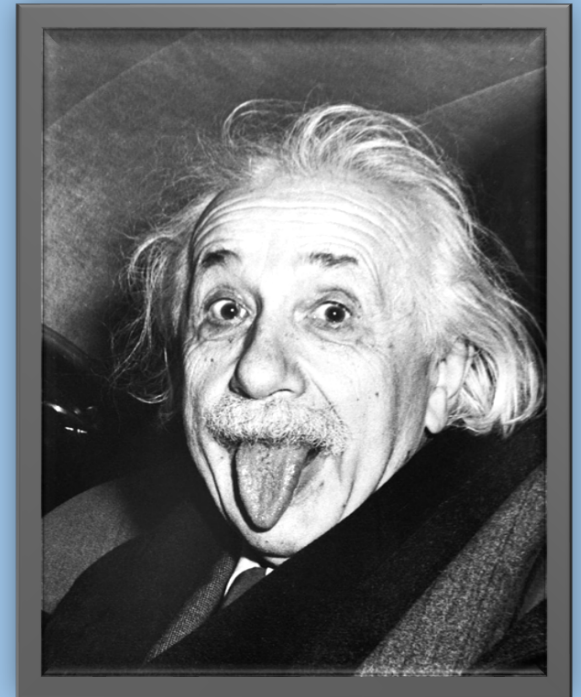


Modern Principles of Athletic Training
Arnheim 1985



**“Insanity is Doing the
SAME Thing Over and
Over Again and Expecting
Different Results!”**

Misattributed to Albert Einstein





the JEPster

**Joanna
Elizabeth
Patterson**



Intervention



What is the Root Cause?!?

**How Could You Actually
Support the Shock Force
that is Causing the Issue?!?**

**Do NOT Cause a Problem
Trying to Fix a Problem!!!**

Jedi Master Chuck Whedon MS, ATC










**Why NOT Treat
Medial Posterior Tibial
Stress Syndrome like the
Water LEAK that IT IS?!?**





“All Men are Created Equal”

Unfortunately, the Unalienable Truth is, Anatomically Speaking, Sports may be a Bit More Challenging for Some Athletes

<p>Flat foot (Fallen arch)</p>			
<p>Normal foot</p>			
<p>Hollow foot (High arch)</p>			

OVERPRONATION



Around 70% of the population overpronate, so this is by far the most common pronation type amongst runners. As the foot is planted it rolls inward excessively, transferring weight to the inner edge instead of centering it on the ball of the foot. It's usually seen in runners with low arches or flat feet.

Potential injuries: Shin splints, plantar fasciitis, knee pain, heel spurs

Recommended shoe: [Stability](#)

UNDERPRONATION



Sometimes called supination, this is when the outer side of the foot strikes the ground at a steeper than normal angle with little or no movement inward, causing a jarring effect, and a large transmission of shock through the lower leg. It's usually seen in runners with high arches.

Potential injuries: Plantar fasciitis, shin splints, ankle strain

Recommended shoe: [Neutral](#)

NEUTRAL



Usually seen in runners with normal-size arches, neutral pronation occurs when the foot lands on the outer edge and then rolls inward in a controlled manner, distributing weight evenly and helping to absorb shock. On push off, there is an even distribution of pressure from the front of the foot.

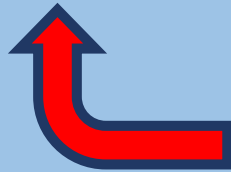
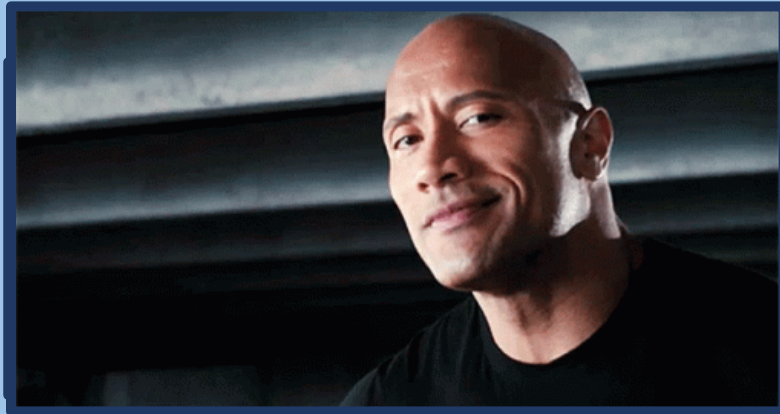
Potential injuries: Injuries are less likely for neutral runners.

Recommended shoe: [Neutral](#)

Orthotics



Get the Rock Outta Your Shoe



Not THAT Kinda Rock

THIS Kinda Rock



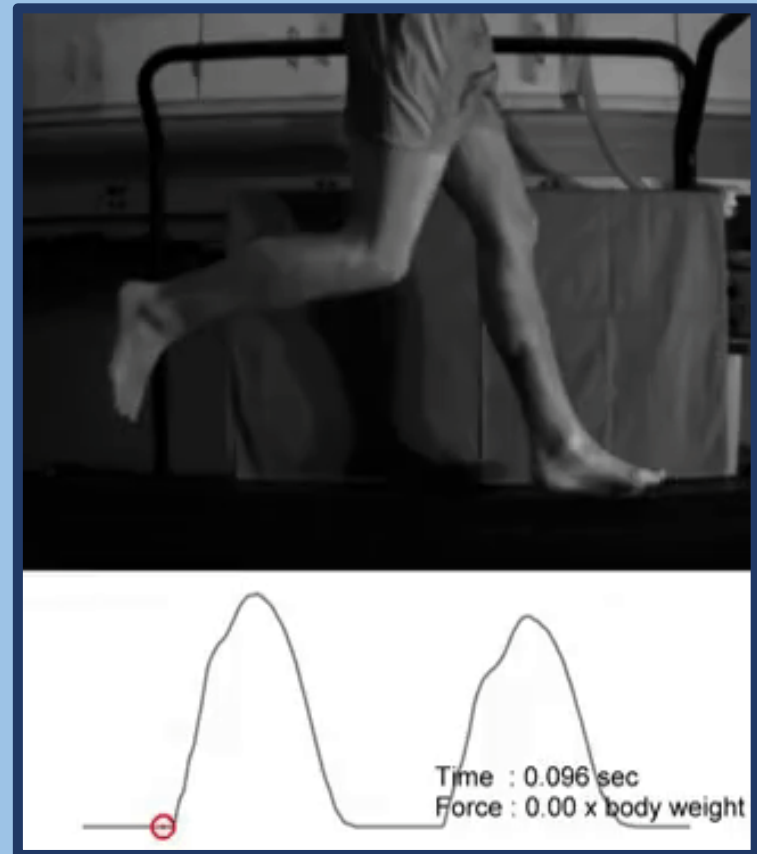
Let's Get Physical with Physics

**Load is the Force Exerted
on a Surface or Body**

**Dynamic Force is a Force
Acting ON an Object that
Causes It to Vary or Change
it's Size, Position or Direction**

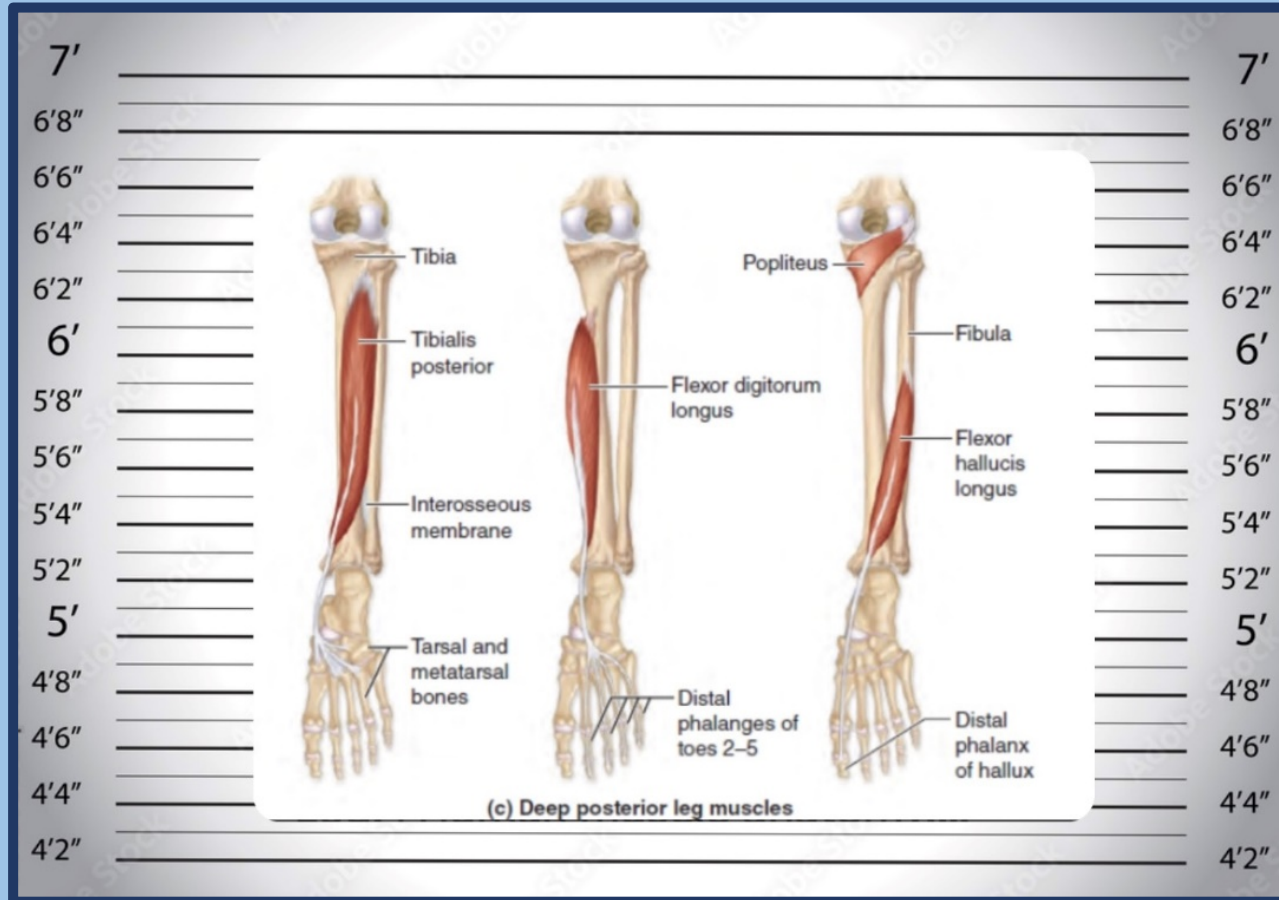
**Therefore, a Force Acting ON
an Object Becomes the Load
to that Particular Object**

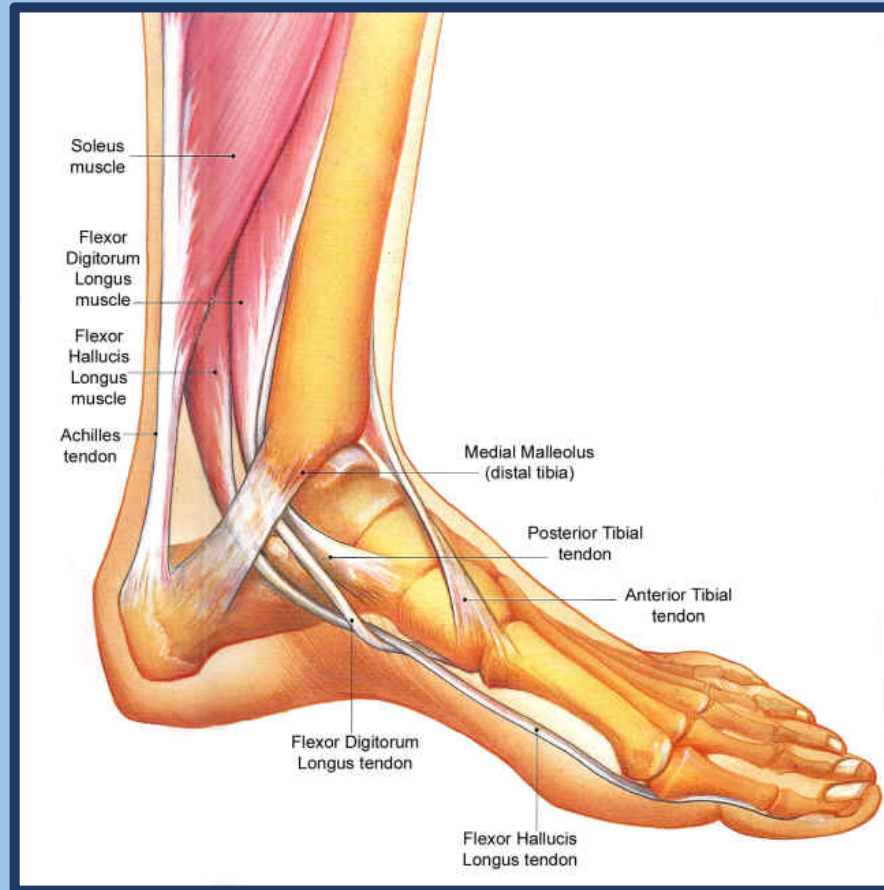
<https://studiousguy.com>>Physics



“Usual Suspects”

Tom, Dick and Harry





So Perhaps, We “Evolve” Our Taping/Strapping Procedure for MTSS?!?



Whatcha Need



**Hartmann
Pro's Choice Adhesive 2"**



**Actimove
Elastikon 2"**

Apply Adhesive Stretch Wrap Base

- Simple Figure “8” around the Ankle/Foot
- Stretch Wrap should Cover the Entire Arch

- Simple Base Above the Calf and Below the Knee



Apply the Elastic Adhesive Wrap

- Place the Foot in Slight Inversion
- Split the End of the Elastic Adhesive Wrap and Anchor the “V” to Straddle the Malleolus Inferiorly
- Cut the Elastic Adhesive Wrap to the Length of the Knee and Split the End into a “V”
- Apply “Goldilocks” Tension on the Elastic Adhesive Wrap along the Medial Tibial/Calf Border and Anchor the “V” to just Below the Tibial Plateau and Above the Calf



Two is One... and One is None!

United States Navy SEALs

- Repeat Steps 4 & 5 by Anteriorly Overlapping the Elastic Adhesive Wrap by a $\frac{1}{2}$ Width

- Anchor at the Knee and the Foot with Adhesive Stretch Wrap



the JEPster is Ready to Rock!

9 (+) Years

100 (+) Athletes

96 % (+) Success Rate

Orthotics:

Beneficial in Conjunction with the JEPster.

Ankle Taping:

**Tape the Ankle 1st Before
Applying the JEPster.**

Allergic Concerns:

**Rubber Properties in the Elastic Tape may
cause Irritation to the Skin. Treated with
Benadryl Topical Spray and/or with Pre Wrap.**







Special Thank You:

Stephanie Mosiondz MS, ATC/L
Washington Twp High School

Casey Christy DAT, ATC/L, CSCS
Eastern High School

Nicolette Montgomery ATC/L
Shawnee High School

Dr. Frank Tursi D.P.M, F.A.C.F.A.S.
Foot & Ankle Specialists of SJ
Sports Podiatrist Philadelphia Flyers

Thank you

References

Winters M, Eskes M, Weir A, et al. Treatment of medial tibial stress syndrome: a systematic review. *Sports Med.* 2013 Dec;43(12):1315-33.

Moen M, Holtslag L, Bakker E, et al. The treatment of medial tibial stress syndrome in athletes; a randomized clinical trial. *Sports Med Arthrosc Rehabil Ther Technol.* 2012;4(1):1-8.

Loudon J, Dolphino M. Use of foot orthoses and calf stretching for individuals with medial tibial stress syndrome. *Foot Ankle Spec.* 2010;3(1):15-20.

Moen H, Tol J, Weir A, et al. Medial tibial stress syndrome: a critical review. *Sports Med.* 2009;39(7):523–546.

Jones, Oliver (2017, January) *Muscles in the Posterior compartment of the Leg.* <http://teachmeanatomy.info/lower-limb/muscles/leg/posterior-compartment/>

Lyons, Lena (Medical Illustrations) 1987, 1993, 2000 Anatomical Chart Company, Skokie, Illinois. In consultation with Ivanhoe B. Higgins, M.D. and Joseph J. Mandiberg, M.D..

Cutter, Nancy, C., M.D. and Kevorkian, C., George, M.D. (1999 McGraw-Hill Companies) *Handbook of Manual Muscle Testing.* Chapter 6 Leg and Foot Pages 174 - 179.

Sieg, Kay, W., Ph.D. and Adams, Sandra, P., Ph.D. (1996 Megabooks) *Illustrated Essentials of Musculoskeletal Anatomy.* Third Edition. Pages 105 - 107.

