FMT Performance

FMT Kinesiology Taping Certification

1

Provider/Financial Disclaimer

RockTape and the presenter for this seminar have financial associations with the manufacturer of commercial products used in this seminar.

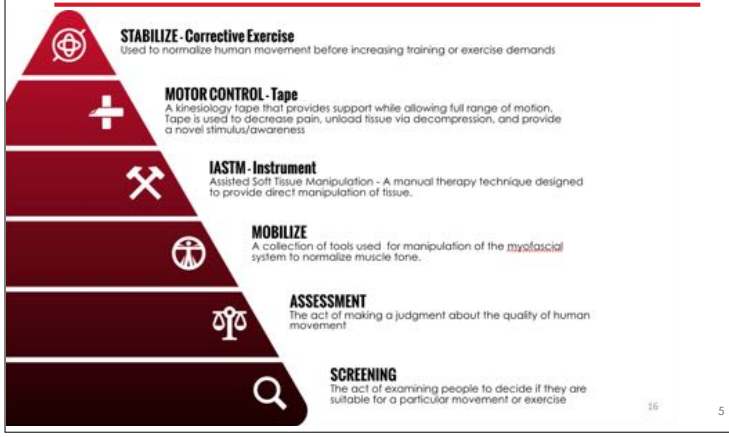
You are not required to purchase the supplies or products used in this course.

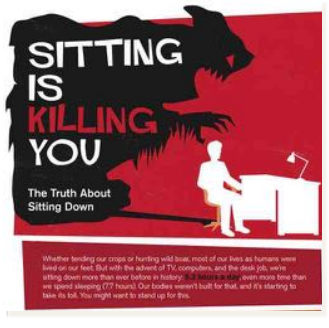
3

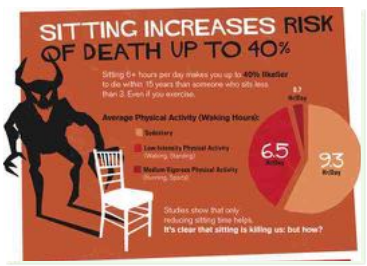
A Movement Company

That Dabbles In Tape

Movement Pyramid







Leandro Fórnias Machado de Rezende, Thiago Hérick de Sá, Grégore Iven Mielke, Juliana Yukari Kodaira Viscondi, Juan Pablo Rey-López, Leandro Martin Totaro Garcia. 'All-Cause Mortality Attributable to Sitting Time Analysis of 54 Countries Worldwide'. Am J Prev Med 2016;51(2):253–263.

It Matters…..

In FMT Basic We Learned:

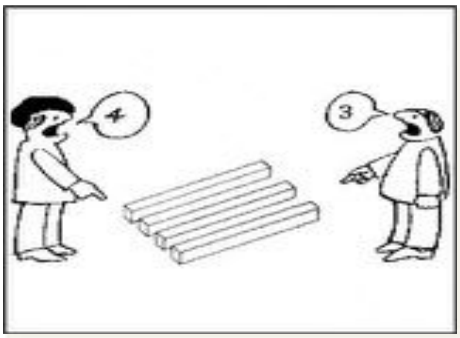
1. Control Pain and Prevent Injury
2. Decrease Edema and Congestion
3. Improve Postural Strain
4. Enhance Neuro-sensory System

You never change things by fighting the existing reality.

To change something, build a new model that makes the existing model obsolete.

Buckminster Fuller

Different Perspective



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FMT Performance Outline

1. Movement Science
2. Fascial Anatomy
3. Fascial Taping
4. Tweak Taping
5. Movement Screening
6. Sports Applications

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Weird Concept

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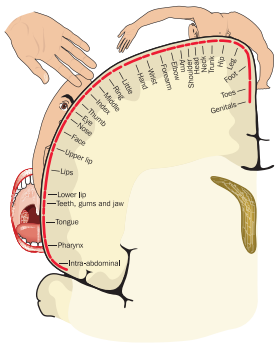
Sea Squirt Analogy -

Movement Science

How Do We Navigate Movement?

Our Helmsman



Somatosensory Cortex

The Science of Perception

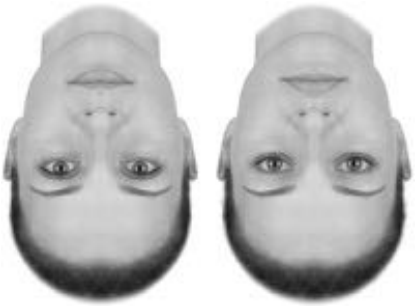
SKINTELLIGENCE

Our skin is a megaphone to get our brain's attention.

Good Movement

Requires good perception

Predictive Embodiment



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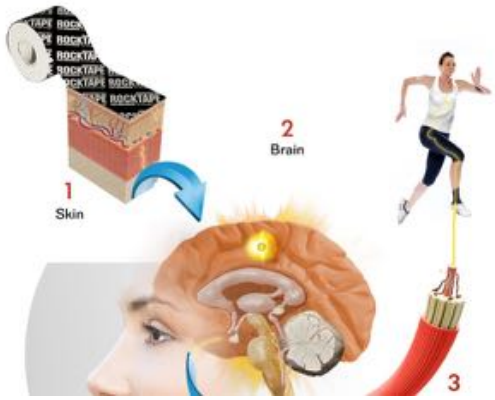
Sensory to Motor Output



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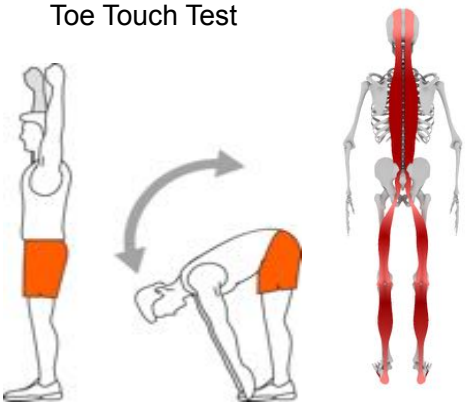
Mechanical & Neurological System

Toe Touch Test



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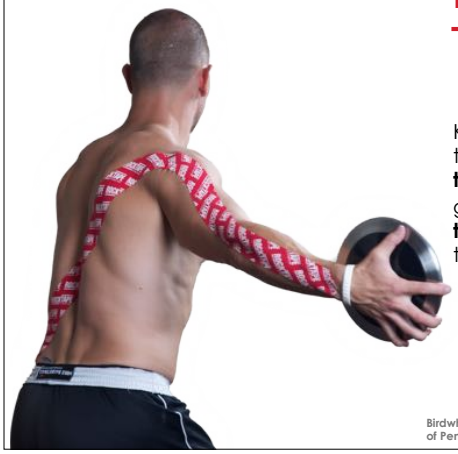
What are we dealing with?

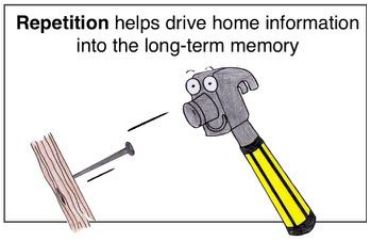
Kinesthetic Cue



Kinesthetic guidance is translated into behavior **30 times faster** than visual guidance and **many thousands of times faster** than audio guidance

Birdwhistell. 1970. Kinesics and Context. University of Pennsylvania Press. Philadelphia.

Principles of Neuroplasticity



"Adaptation occurs according to stress that is applied repetitively."

Humans love repetition

Recognising neuroplasticity in musculoskeletal rehabilitation: A basis for greater collaboration between musculoskeletal and neurological physiotherapists. Snodgrass, Suzanne, et al. Manual Therapy, Vol. 19, Issue 6, 614-617.

www.sentis.com

Trends in the Literature

1. Degraded postural performance after muscle fatigue…
2. Skin strain patterns provide kinesthetic information…
3. Cutaneous afferents and knee joint movements…
4. Effects of taping on scapular kinematics in the presence of impingement syndrome…

Afferents Improves Performance

Contents lists available at ScienceDirect

Gait & Posture

journal homepage: www.elsevier.com/locate/gaitpost

Degraded postural performance after muscle fatigue can be compensated by skin stimulation

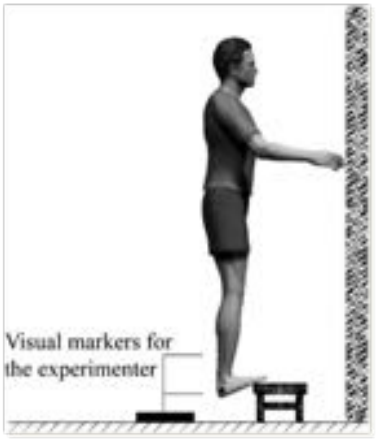
Thibaud Thedon [a,b], Kevin Mandrick [b], Matthieu Foissac [a], Denis Mottet [b], Stéphane Perrey [b,*]

ARTICLE INFO

ABSTRACT

It has been shown that the ability of humans to maintain a quiet standing posture is degraded after fatigue of the muscles at the ankle. Yet, it has also been shown that skin stimulation at the ankle could improve postural performance. In the present study, we addressed the issue of the interaction of these two effects. Subjects were tested with the eyes closed in four conditions of quiet stance: with or without skin stimulation and before and after a fatigue protocol. The skin was stimulated with a piece of medical adhesive tape on the Achilles' tendon. The fatigue protocol consisted of multiple sets of ankle plantar flexion of both legs on stool. Without fatigue, we did not observe a significant effect of the tape. With fatigue, subjects decreased their postural performance significantly, but this effect was cancelled out when a piece of tape was glued on the Achilles' tendon. This indicated that the beneficial effect of the tape was unveiled by the degraded postural performance after fatigue. We conclude that, when the muscular sensory input flow normally relevant for the postural system is impaired due to fatigue, the weight of cutaneous information increases for the successful representation of movements in space to adjust postural control.

Skin stimulation helps with balance after fatigue



Tape & Muscle Fatigue

"Adhesive tape that is adequately placed on the skin can provide sensory information that **compensates** for the less accurate muscular proprioception **after fatigue**. The positive results could justify further investigations to better understand how cutaneous stimulation could allow us to **enhance postural and dynamic movement control.**"

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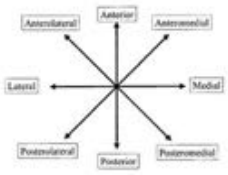

Taping & Fatigue Pilot Studies

1. Improving dynamic postural control after a fatigue effort using RockTape applied in the performance front chain (Lent-Koop, USA, 2011)

2. The use of kinesthetic taping to increase strength output in the lower limbs and enhance reaction times in soccer players (Goh, Australia, 2011)

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MRI Study - Tissue Deformation

J Biomech. 2015 Dec 16;48(16):4262-70. doi: 10.1016/j.jbiomech.2015.10.038. Epub 2015 Oct 30.

MRI analyses show that kinesio taping affects much more than just the targeted superficial tissues and causes heterogeneous deformations within the whole limb.

Parnuk U[1], Yucesoy CA[2]

Author information

Abstract

Kinesio taping (KT) is widely used in the treatment of sports injuries and various neuro-musculoskeletal disorders. However, it is considered as selectively effective on targeted tissues and its mechanical effects have not been quantified objectively. Ascribed to continuity of muscular and connective tissues, mechanical loading imposed can have widespread heterogeneous effects. The aim was to characterize the mechanical effects of KT objectively and to test the hypotheses that KT causes acutely, local deformations not necessarily (I) in agreement with tape adhering direction and (II) limited to the directly targeted tissues. High-resolution 3D magnetic resonance image sets were acquired in healthy human subjects (n=5) prior to and acutely after KT application over the skin along m. tibialis anterior (TA). Hip, knee and ankle angles were kept constant. Demons image registration algorithm was used to calculate local tissue deformations within the lower leg, in vivo. Mean peak tissue strains were significantly higher than strain artifacts. Only KT-to-TA region in part shows local deformations in agreement with tape adhering direction whereas, superficial skin, the rest of KT-to-TA and TA regions show deformations (up to 51.5% length change) in other directions. Non-targeted tissues also show sizable heterogeneous deformations, but in smaller amplitudes. Inter-subject variability is notable. Magnetic resonance imaging analyses allow for a detailed assessment of local tissue deformation occurring acutely after KT application. The findings confirm our hypotheses and characterize how KT affects the underlying tissues, both immediately targeted and distant. This allows revealing mechanisms that can affect clinical outcomes of KT objectively.

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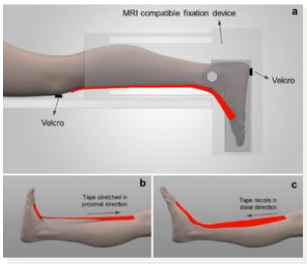
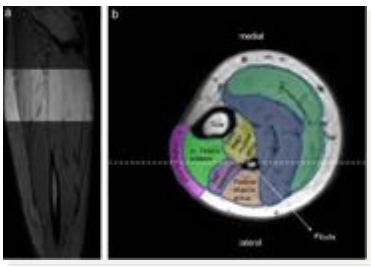
Heterogenous Effects





Tape and Hamstring Extensibility

Int J Sports Phys Ther. 2015 Feb; 10(1): 45–51. PMCID: PMC4325287

TEMPORAL EFFICACY OF KINESIOLOGY TAPE VS. TRADITIONAL STRETCHING METHODS ON HAMSTRING EXTENSIBILITY

Claire Fanzulharson[1] and Matt Greig, PhD[2]

Abstract Go to:

Background

The epidemiology and aetiology of hamstring injuries in sport have been well documented. Kinesiology tape has been advocated as a means of improving muscle flexibility, with potential implications for injury prevention. Purpose: To compare the temporal pattern of efficacy of kinesiology tape and traditional stretching techniques on hamstring extensibility. Study Design: Controlled laboratory study. Methods: Thirty recreationally active male participants (Mean ± SD: age 21.0 ± 0.1 years; height 180 ± 6 cm; mass 79.4 ± 6.9 kg) completed an active knee extension assessment (of the dominant leg) as a measure of hamstring extensibility. Three experimental interventions of equal time duration were applied in randomized order: Kinesiology tape (KT), static stretch (SS), proprioceptive neuromuscular facilitation (PNF). Measures were taken at baseline, +1, +10 and +30 mins after each intervention. The temporal pattern of change in active knee extension (AKE) was modelled as a range of regression polynomials for each intervention, quantified as the regression coefficient. Results: With baseline scores not statistically different between groups, and baseline AKE set at 100%, PNF showed a significant improvement immediately post-intervention ($PNF_{-1} = 107.7 \pm 8.2\%$, $p = .01$). Thereafter, only KT showed significant improvements in active knee extension ($KT_{-10} = 106.0 \pm 7.1\%$, $p = .05$; $KT_{-30} = 106.9 \pm 5.0\%$, $p = .02$). The temporal pattern of changes in active knee extension after intervention was best modelled as a positive quadratic for KT, with a predicted peak of 108.8% baseline score achieved at 24.2 mins. SS was best modelled as a negative linear function, and PNF as a negative logarithmic function, reflecting a rapid decrease in active knee extension after an immediate positive effect. Conclusion: Each intervention displayed a unique temporal pattern of changes in active knee extension. PNF was best suited to affect immediate improvements in hamstring extensibility, whereas kinesiology tape offered advantages over a longer duration. Clinical Relevance: The logistics of the sporting or clinical context will often dictate the delay between intervention and performance. Our findings have implications for the timing and choice of intervention aimed at increasing hamstring extensibility in relation to performance.

Conclusion:

KT extended the benefits of traditional stretching and PNF on hamstring length.

FMS Scores & Tape

Original Research

The Effect of Kinesio Tape® on Lower Extremity Functional Movement Screen™ Scores

HYUN MO AN*, CATHERINE MILLER*, MICHAEL MCELVEEN†, and JAMES LYNCH†

Athletic Training Education Program, Florida Southern College, Lakeland, FL, USA

†Denotes professional author, *Denotes undergraduate student author

ABSTRACT

International Journal of Exercise Science 5(3) : 196-204, 2012. The purpose was to determine if application of Kinesio Tape (KT®) improves lower extremity scores on the Functional Movement Screen (FMS™). Individual FMS™ score assessments of 32 college students were obtained. The subjects were then randomized into treatment and control groups. The treatment group had a second FMS™ score after application of KT® to the lower extremity while the control group had a second FMS™ score with no intervention. 16 varsity women's basketball players and 16 non-varsity female students (Tegner Scale: 6.84 ±1.25, Age: 19±1.2, Height: 165.1±15.1cm, Weight: 68.1±10.9kg) at a NCAA Division II institution participated. FMS™ scores were collected and recorded by the principal investigator. Data was analyzed through two way analysis of variance (ANOVA). Post hoc analysis indicated the treatment group significantly improved in comparison to the control group (Left: $P<.001$, 95% CI: .283 - .467; Right $P<.001$, 95% CI: .327 - .523) for both sides of the Hurdle Step. There were no interactions with Deep Squat ($P=0.667$) or either side of In-Line Lunge (Left: $P=0.291$, and Right: $P=0.530$). There were no interactions with either group in Deep Squat and In-Line Lunge of FMS™. However, there was a significant interaction with both groups in the Hurdle Step of FMS™. Findings from this research suggest that KT® may improve movement that incorporates a non-weight-bearing segment.

Conclusion:

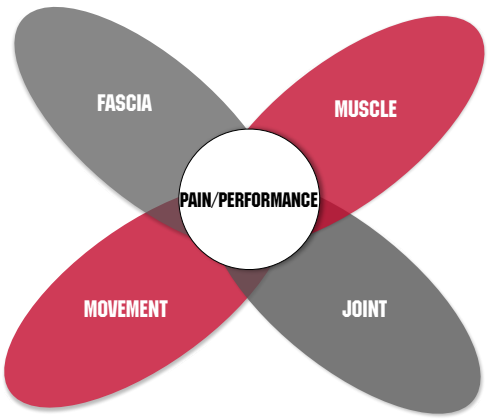
The addition of kinesiology tape showed improvement in movement that incorporated a non-weight bearing segment

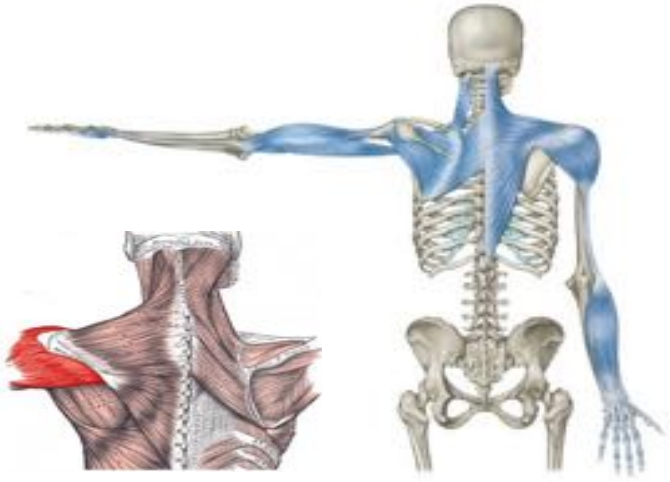
Ref: www.functionalmovement.com

Human GPS System
Fascial Anatomy

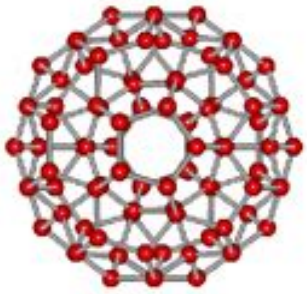
Credit: anatomytrains.com

Governed by Nervous System





Ref: www.anatomytrains.com



The muscle-bone concept presented in standard anatomical descriptions gives a purely mechanical model of movement. It separates movement into discrete functions, failing to give a picture of the seamless integration seen in a living body. When one part moves, the body as a whole responds. Functionally, the only tissue that can mediate such responsiveness is the connective tissue…"

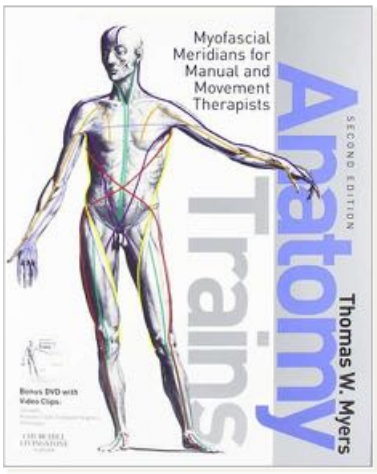
- The Endless Web: Fascial Anatomy and Physical Reality (R. Louis Schultz, PhD and Reosemary Feitis, DO

The "Fuzz" Speech

www.gilhedley.com

"The skin is very much the skin of the superficial fascia, and they are thoroughly mechanically related."

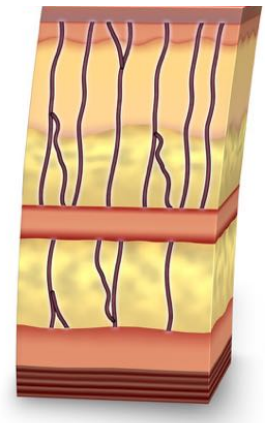
Gil Hedley, PhD



Anatomy Trains

Credit: anatomytrains.com

Cross-Sectional Anatomy Lesson



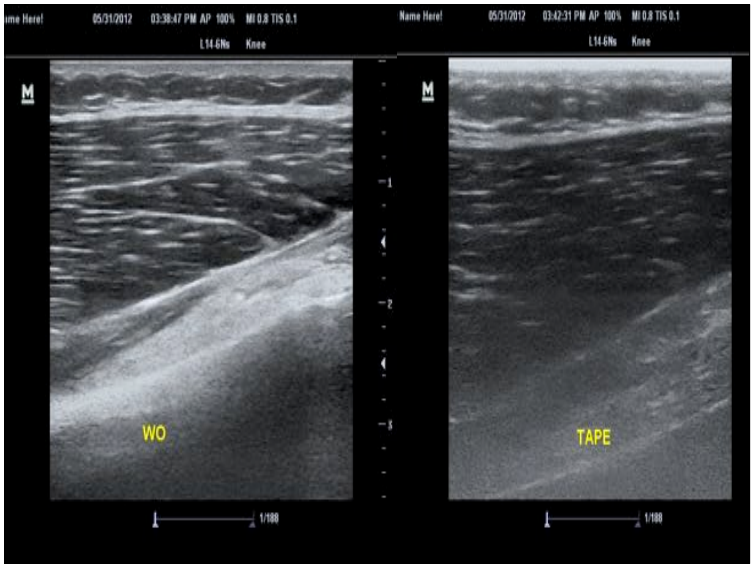
Epidermis/Dermis

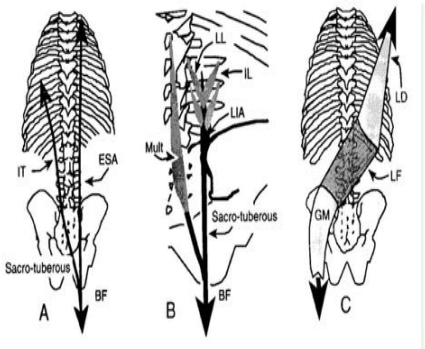
Skin ligaments

Superficial fascia

Deep fascia

Muscle





Synergy

Muscles act in synergy, **not** in isolation

Muscular strain is applied along traceable **myofascial lines**

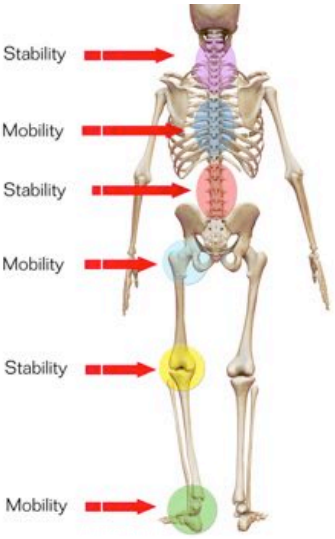
Vleeming, A. et al. Relation between form and function in the sacroiliac joint. Part 2: Biomechanical aspects. Spine 1990b; 15(2): 133-136.

Focus Points

Brain, not muscles, coordinates movements

Taping movement patterns helps to prime the sensorimotor system via cutaneous afferent stimulation

Improve performance via enhanced sensory input



Joint by Joint

Credit: Gray Cook and Mike Boyle

Mobility vs. Motor Control

Mobilize

RockTape

Length/Tension Relationship

Improve length-tension relationships
Improve force couple relationships
Improve neuromuscular efficiency

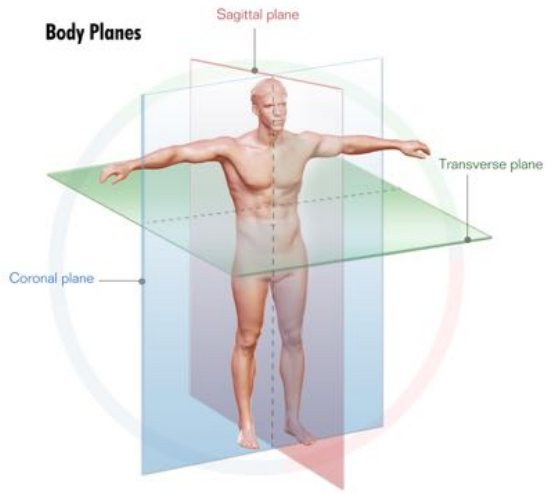
Via the skin

Ref: Dictionary of Sport and Exercise Science and Medicine by Churchill Livingstone

Performance Fascial Chains

1. Performance **Back** chain
2. Performance **Front** Chain
3. Performance **Lateral** Chain
4. Performance **Functional** Chains
5. Performance **Core** Chain
6. Performance **Extremity** Chains
7. Performance **Spiral** Chains

Alternate Method of Navigating the Body



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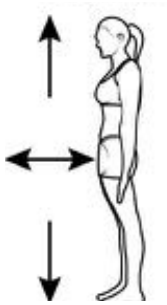
Sagittal Plane Movement



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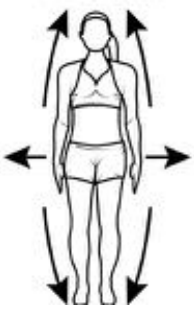
Frontal Plane Movement



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Transverse Plane Movement

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Performance Back Chain

Sagittal Plane

Credit: Anatomy Trains

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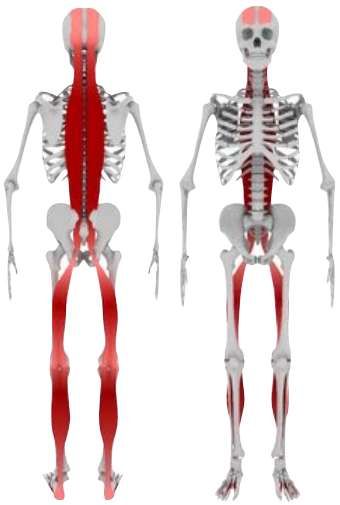

Performance Back Chain

Sagittal plane

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Performance Back Chain

Plantar surface of toes
Plantar fascia and short toe flexors
Calcaneus
Achilles Tendon
Gastrocnemius/Soleus
Femoral condyle
Hamstrings
Ischial tuberosity
Sacrotuberous ligament
Sacrum/sacrotuberous fascia
Erector spinae
Occipital ridge
Galea aponeurotica
Epicranial fascia

Biomechanical Functions

Function	Performance Outcome
Supports full upright position	Controls side to side sway when running or cycling
Primarily Slow Twitch	Anti-Gravity (Endurance Based)
Concentric Extension (except for the knee)	Upright Position
Eccentric Flexion (except for the knee)	Resists Flexion Moment
Flexion of the knee	Control of the Knee

Stretch the Chain

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Tape the Chain

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Chuck Wolf - www.humanmotionassociates.com

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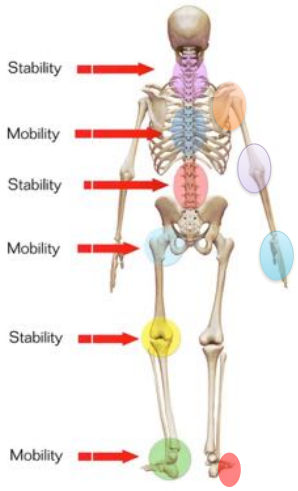

Joint by Joint Relationship

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Mobility vs. Motor Control

Mobilize

RockTape

Taping Sections of the Chain

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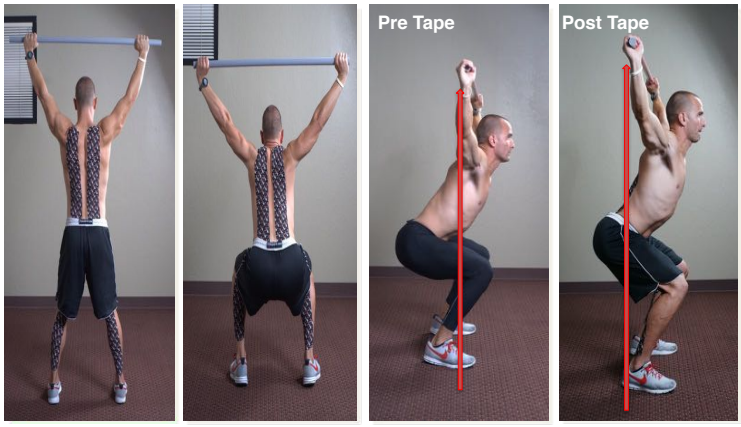

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Performance Front Chain

Sagittal Plane

Credit: Anatomy Trains

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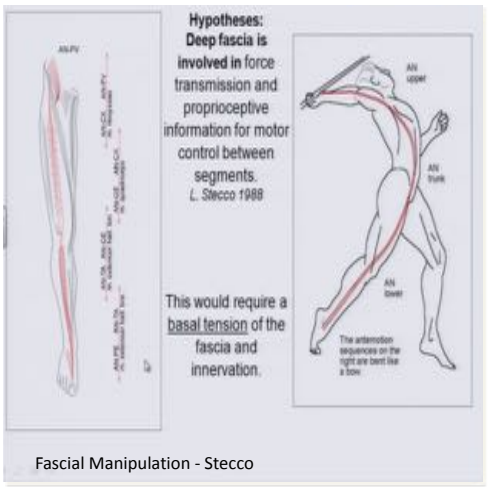
Performance Front Chain

Dorsal Toe Extensors
Short/Long Toe Extensors
Anterior Tibialis
Anterior Compartment
Sub patellar Tendon
Patella
Rectus Femoris (Quads)
Pubic Tubercle/AIIS
Rectus Abdominus
5th Rib Sternalis
Sterno-chondral fascia
Sternal Manubrium
SCM + Mastoid
Scalp Fascia

Biomechanical Functions

Function	Performance Outcome
Flex trunk and hips	Upstroke of cycling, swing phase of running
Extend the knee	Down-stroke of cycling and kicking improvements, controls landing forces
Dorsi flex foot	Heel strike, improvement in stability
Primarily fast twitch	Improve power, speed and explosive movements
Balance performance back chain	Helps improve core stability



Fascial Manipulation - Stecco

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Stretch the Chain

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Tape the Chain

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Chuck Wolf - www.humanmotionassociates.com

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Taping Sections of the Chain

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Performance Lateral Chain

Frontal/Coronal plane

Credit: Anatomy Trains

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Performance Lateral Chain

Frontal/Coronal plane

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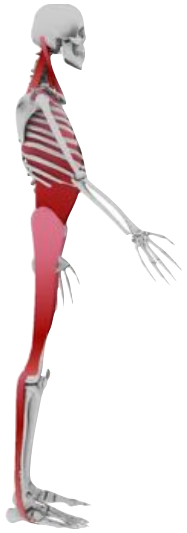

Performance Lateral Chain

1st and 5th Metatarsal Bases
Peroneals (Fibularis group)
Lateral Crural Compartment
Lateral Tibial Condyle
ITB
Abductor Muscles
TFL
Gluteus Max
Iliac Crest, ASIS, PSIS
Lateral Abdominal Obliques
Ribs Ext/Int Intercostals
1st/2nd Ribs
Splenius Capitis
SCMOccipital Ridge/
Mastoid Process

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Biomechanical Functions

Function	Performance Outcome
Lateral bending of the trunk	Controls side to side sway when running or cycling
Abduction of the hip	Control landing forces during jumping and running, squatting
Eversion of the foot	Toe-off in running gait
Adjustable breaking mechanism	Controls landing forces, provides stability of the pelvis and trunk
Balances front and back chain	Connects front to back chains to increase structural integrity

83

Stretch the Chain

84

Tape the Chain

85

86

Chuck Wolf - www.humanmotionassociates.com

Tape Sections of the Chain

88

Performance Functional Chain

Transverse plane

Credit: Anatomy Trains 89

90

Performance Functional Chain

Tuberosity of Tibia
Subpatellar Tendon
Patella
Vastus Lateralis
Shaft of Femur
Gluteus Maximus
Sacrum Sacral Fascia
LD Fascia, Lat Dorsi
Shaft of Humerus

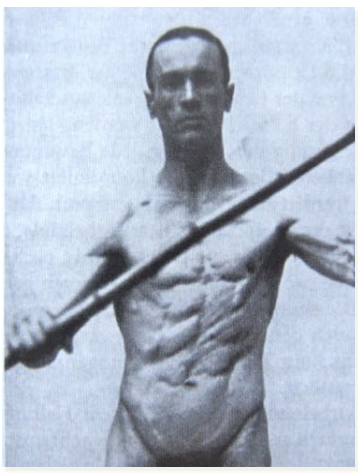
Linea Aspera of Femur
Adductor longus
Pubic Tubercle and Symphysis
Lateral Sheath of Rectus Abd
5th rib and 6th rib cartilage
Lower edge of pec major
Shaft of humerus

91

Biomechanical Functions

Function
Transmission of strain from upper to lower halves of body
Extending Arm Chains to Opposite Pelvis
Acceleration and Deceleration
Increase Power and Precision
Rotation of the Trunk

92



93

Stretch the Chain

94

Tape the Chain

95

Tape the Chain

96

97

Chuck Wolf - www.humanmotionassociates.com

98

Performance Core Chain

Credit: Anatomy Trains

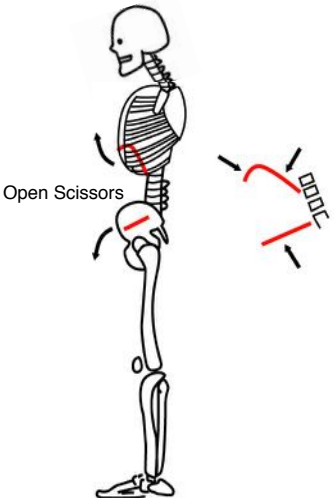
99

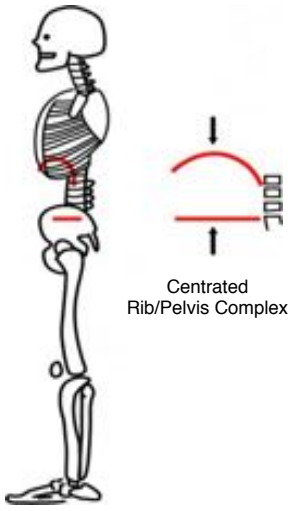
100

Performance Core Chain

Temporalis
Masseter
Scaleni, Hyoid Muscles
Longus Colli and Capitus
Diaphragm
TVA
Psoas Major
Q/L
Iliacus
Pelvic Floor
Adductors
Post Tibialis
FHL
FDL

101





Centrated
Rib/Pelvis Complex

www.rehabps.com.

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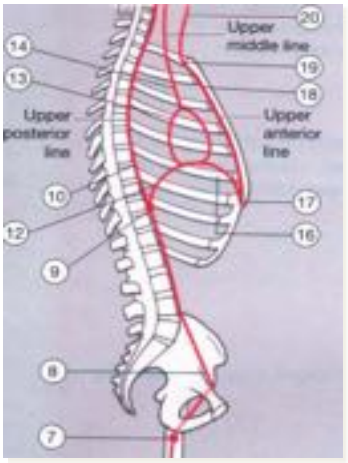


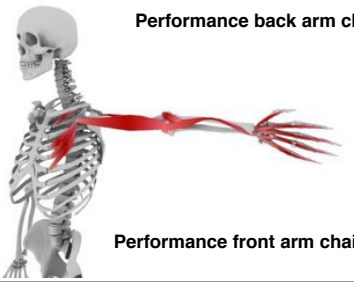
Performance Core Chain

Relationship between breathing and performance core fascial chain

Credit: Anatomy Trains 103

Tape the Chain

Performance back arm chain



Performance front arm chain

Performance Arm Chains

Credit: Anatomy Chains 105

Stretch the Chain

Taping the Chains

Performance front arm chain

Performance back arm chain

Helical Chains

Stecco Model - Helical

Myers Model - Spirals

109

Upper Extremity Helix

Upper Arm Dominant

Forearm Dominant

110

Lower Extremity Helix

111

112

Lower Extremity Helix

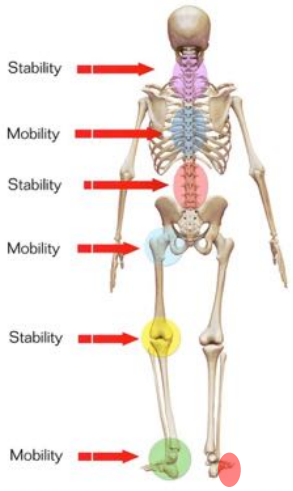
Pre/Post

113

114

TWEAK TAPING

Pain and Movement Control



Joint by Joint Relationship

Insert Motor Control Stimulus

Tweak Taping Framework

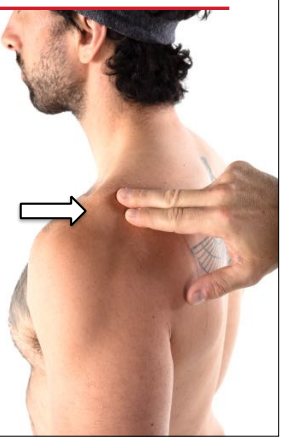
1. Establish the direction of **skin** glide that gives the greatest improvement in an objective marker (pain, range of motion, movement)

2. For maximum effect, combine simultaneous manual **skin** glide with tape stretch

Shoulder Tweak Taping

- **Target:** glenohumeral joint
- **Use for:** pain, impingement, rotator cuff pathology, UE nerve irritation, ROM
- **Example markers:** push up, throw, AROM, empty can test, etc…
- **Apply:** locate epicenter of pain, apply base just past epicenter, apply directional tension in the direction that most improved marker

Directional Skin Glide



Tweak Taping with Movement

Pull and Push in Preferential Direction

Sacroiliac Tweak Taping

- **Target:** L/S Junction
- **Position:** start standing and finish with hip or lumbar spine flexed on chair/step
- **Apply:** locate epicenter of pain, apply base just past epicenter, apply directional tension in the direction that improved the test marker the most

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Directional Skin Glide

122

Directional Bias

Pull tape & push skin in direction of improved marker

With Movement

Apply Tweak Tape while person is moving in provocative movement pattern

Knee Tweak Taping

- **Target:** medial compartment of tibiofemoral joint
- **Good for:** MCL pathology, medial compartment OA, medial meniscus pathology, pes anserinus pain
- **Markers:** stepping, squatting, running
- **Apply:** locate epicenter of pain, place base of tape just past epicenter, apply directional tension in the direction of most beneficial skin glide

Skin Glide

Attempt to find a preferential direction of skin glide

Knee Tweak Taping

Fibular Tweak

Target: proximal tib/fib joint

Position: long sitting or standing

Measure: horizontal strip 2cm anterior to fibular head to middle of gastrocnemius

Apply: locate epicenter of pain, apply base just past epicenter, apply tape with stretch in direction of the most beneficial skin glide (usually P-A direction in this case)

Muscle Belly Tweak Taping

Look for positive response to skin glide test across muscle tissue

Apply short strips with 40-80% stretch on tape and simultaneous tissue glide

Fascial Patterns/Tweak Taping

Sagittal

Frontal

Transverse

130

RockFloss

Concepts and Application

131

Joint by Joint Relationship

Insert Mobility

132

Indications

- Tissue Glide/Mobility
- Fluid Capture
- Pain Mitigation
- Joint Centration

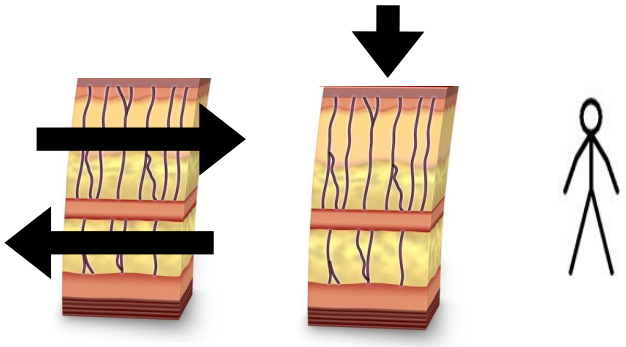
133

Contraindications

- Deep-vein thrombosis,
- Pregnancy,
- Varicose veins,
- High blood pressure
- Cardiac disease
- Blood Thinners

134

Mechanisms



Shearing Compression Move

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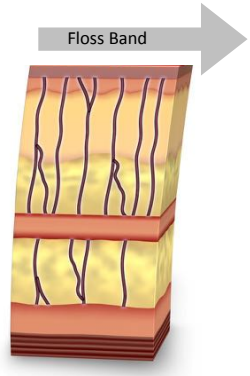
Directional Preference



Directional Shear

+

Tweak Taping

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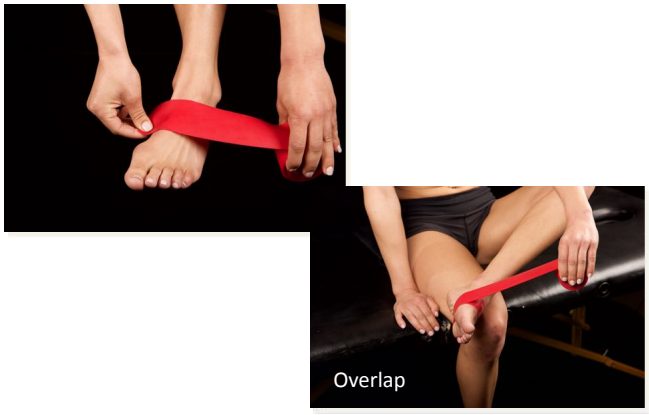
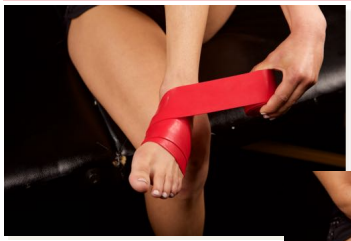
Mobility Instructions

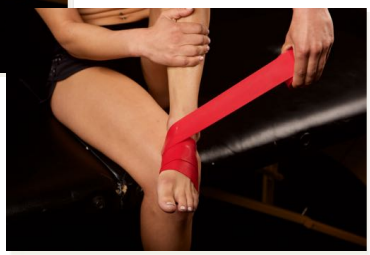


137

Wrapping



50% Overlap

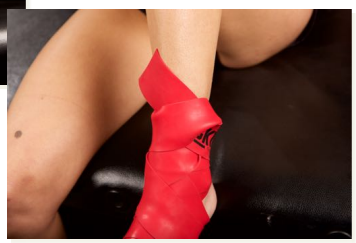


Add Tension - To Tolerance

138

Finish

Tuck Method



Completed Application

139

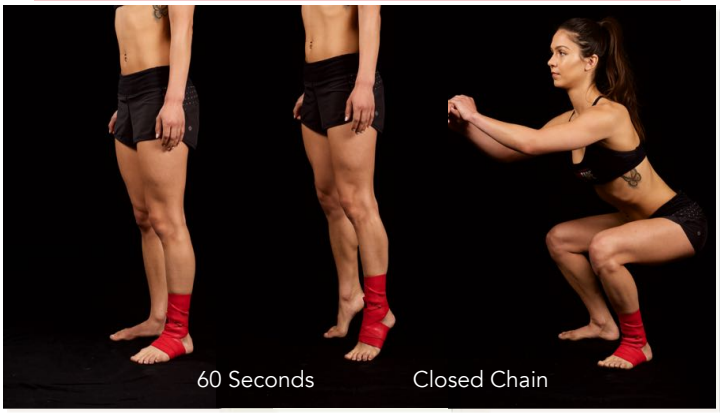
Movement - Non Weight Bearing

60 Seconds

Open Chain

40

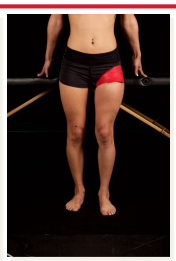
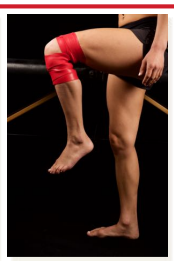
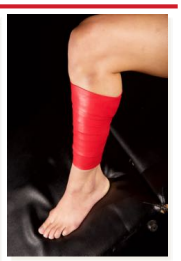
Movement - Weight Bearing



60 Seconds

Closed Chain

Lower Extremity Applications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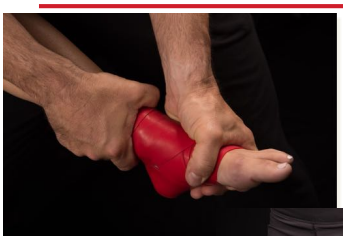
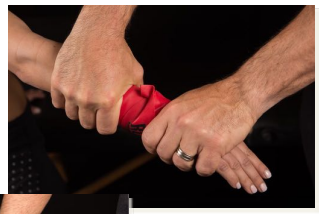
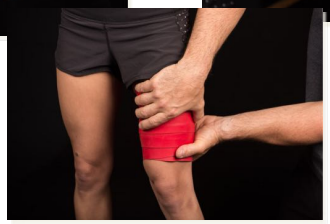
Upper Extremity Applications


143

Therapist Assisted Manipulation

Directional Preference

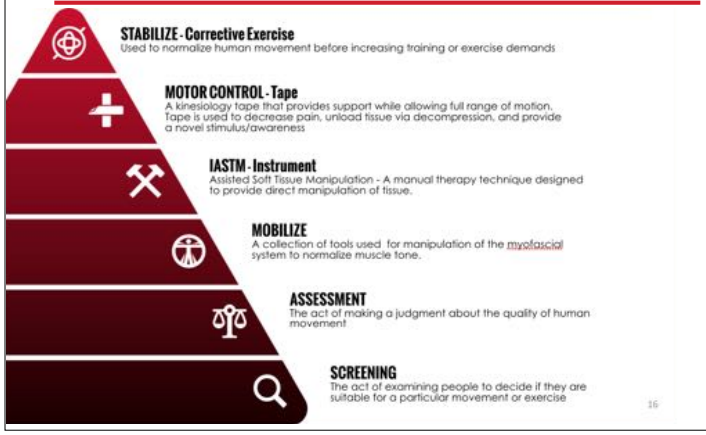
144

Screen & Intervene

Planar Dysfunction
Fascial Planes
Mobility
Stability

145

Movement Pyramid



146

The Framework - Big Picture

- identify "motor chain" dysfunction
- treat dysfunctional chain
- lengthen movement pattern
- intervene (Tape/Floss/Modalities/etc…)
- train / educate pattern

147

The Framework - Today

- identify "motor chain" dysfunction with screen
- lengthen movement pattern
- intervene (Tape/Floss)
- re-screen movement

148

No reliable methods

149

medical history: (OPPQRSTFID)

NOTE: inquire about past skin reactions to adhesives

performance history

areas of fatigue, weakness, discomfort, cramping, balance loss, etc..

150

Screen to an Assessment

static posture

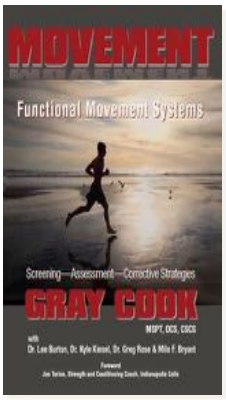
movement screen

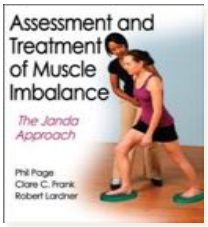
rom assessment

strength assessment

151

Movement Screening Systems





NASM
NATIONAL ACADEMY OF SPORTS MEDICINE

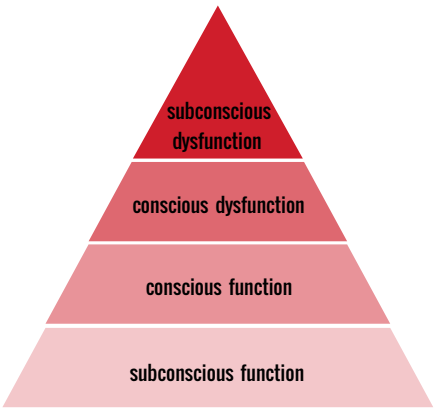
GRAY INSTITUTE

FMS
Functional Movement Systems

ZHEALTH
Performance

152

Process of Discovery



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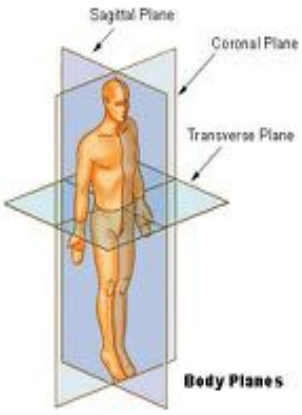
1	**frontal plane** a vertical plane running from side to side; divides the body or any of
2	**sagittal plane** a vertical plane running from front to back; divides the body or any of
3	**transverse plane** a horizontal plane; divides the body or any of its parts into upper



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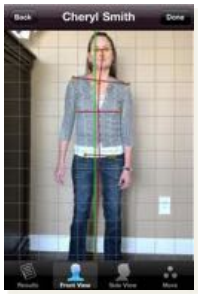
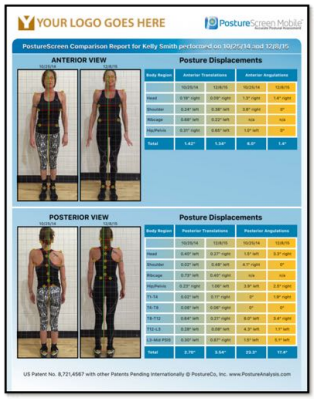
Tech Support



PostureScreen Mobile™

155

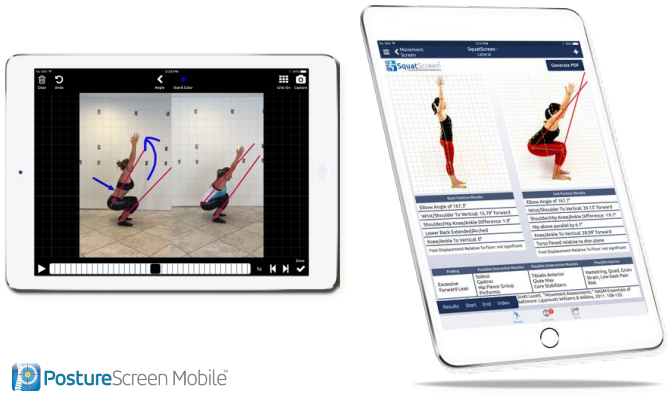
Static Screen - Posture



PostureScreen Mobile®

156

Dynamic Screen - Movement



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157

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FMT Movement Screens

1. Breathing
2. Rolling Screen
3. Push Screen
4. Scapular Screen
5. Double Leg Stance
6. Staggered Leg Stance
7. Single Leg Stance

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Developmental Sequence

MOVEMENT SCREENING WORKSHEET

ASSESSMENT: BREATHING
☐Mouth breathing ☐Vertical breathing pattern ☐Chest initiation ☐Paradoxical

ASSESSMENT: DOUBLE LEG SCREEN
☐Heels off floor ☐Heel eversion/ball of foot pivots
☐Knee int. rotation/valgus ☐Knees anterior of toes ☐Excessive calf/hamstring contact
☐Pelvic counter-nutation @ bottom position ☐Thighs contact abdomen
☐Ribcage rotation ☐Ribcage too horizontal ☐Ribcage lateral flexion L/R
☐Scapular winging ☐Protraction of scapula/rolling of shoulders forward
☐OHS: bar too anterior (shoulder flexion fault)

Affected Chains: ☐Back ☐Front ☐Lateral ☐Core ☐Functional (rotation) ☐Extremity

ASSESSMENT: STAGGERED STANCE SCREEN
☐Forward leg reduced flexion (trailing knee not touching ground)
☐Forward leg ankle off floor (reduced ankle dorsiflexion)
☐Trailing leg hip not extended fully
☐Pelvic drop L/R on forward leg
☐Lateral trunk flexion L/R ☐Trunk rotation L/R ☐Trunk forward lean

Affected Chains: ☐Back ☐Front ☐Lateral ☐Core ☐Functional (rotation) ☐Extremity

ASSESSMENT: SINGLE LEG SCREEN
☐Lateral shift of pelvis toward support leg ☐Flexion of trunk/pelvis over support hip
☐Trunk forward flexion ☐Trunk rotation L/R
☐Knee internal rotation/valgus L/R ☐Knee external rotation/varus L/R

Affected Chains: ☐Back ☐Front ☐Lateral ☐Core ☐Functional (rotation) ☐Extremity

ASSESSMENT: PUSH SCREEN
☐Hyperlordosis of lumbar spine ☐Flexion of lumbar spine/pelvis pushed toward ceiling
☐Scapular winging L/R ☐Trunk rotation relative to pelvis L/R

Affected Chains: ☐Back ☐Front ☐Lateral ☐Core ☐Functional (rotation) ☐Extremity

ASSESSMENT: SCAPULAR SCREEN
☐Reduced height of arm L/R ☐Reduced internal rotation of arm L/R

ASSESSMENT: ROLLING SCREEN
☐Unable R arm supine to prone ☐Unable L arm supine to prone
☐Unable R leg supine to prone ☐Unable L leg supine to prone
☐Unable R arm prone to supine ☐Unable L arm prone to supine
☐Unable R leg prone to supine ☐Unable L leg prone to supine

Screening Worksheet

In your course notes.....

Screen

ReScreen

Screen + Intervene

- Screen
- Mobility Intervention (Floss)
- Motor Control Intervention (Tape)
- Re-Screen (Check your work)

163

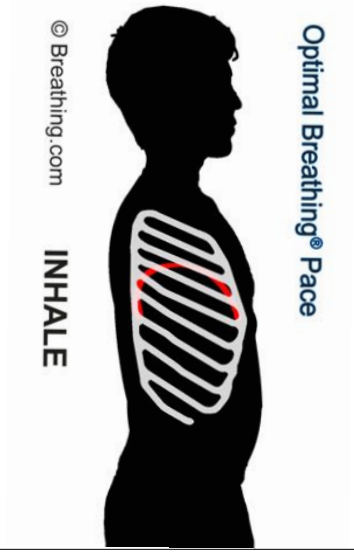
There is no WRONG or RIGHT.

Just varying degrees of RIGHT.

164

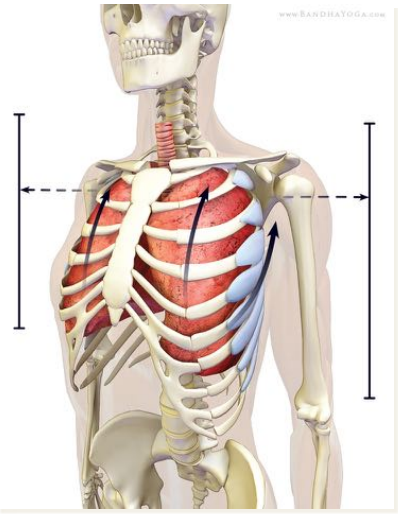
BREATHING SCREEN

165



Optimal Breathing Pattern

166



Abnormal Breathing Pattern

167

Breathing Screen Set-Up

168

Breathing Screen - Dysfunction

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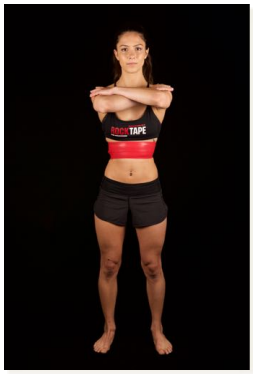
Intervention Strategies



Mobility Intervention

Motor Control Intervention

170

Screen/Intervene

- Screen
- Mobility Intervention (Floss)
- Motor Control Intervention (Tape)
- Re-Screen (Check your work)

171

ROLLING SCREEN

172

Instructions

173

www.functionalmovement.com

Anterior functional chain **Posterior functional chain**

174

Dysfunctional Pattern

Spilling over into secondary plane

175

Screen/Intervene

- Screen
- Mobility Intervention (Floss)
- Motor Control Intervention (Tape)
- Re-Screen (Check your work)

176

PUSH SCREEN

177

Checkpoints

1. Feet
2. Ankles
3. Knees
4. LPHC
5. Scapulothoracic
6. Cervical
7. Upper extremity

178

Thumb Position

Men - Eyebrows
Women - Nose

179

Dysfunctional Patterns

180

Screen/Intervene

- Screen
- Mobility Intervention (Floss)
- Motor Control Intervention (Tape)
- Re-Screen (Check your work)

181

SCAPULAR SCREEN

182

Set-Up

183

Form a Diamond Shape with Thumb/Fingers

Scapular Screen

Raise hands/arms above the back of the head

184

Screen/Intervene

- Screen
- Mobility Intervention (Floss)
- Motor Control Intervention (Tape)
- Re-Screen (Check your work)

185

DOUBLE LEG STANCE

186

Checkpoints

1. Feet
2. Ankles
3. Knees
4. LPHC
5. Scapulothoracic
6. Cervical
7. Upper extremity

187

Standardize the Screen



188

Be consistent

Dysfunctional Patterns


189

Planar Dysfunctions

Frontal

Sagittal

Transverse

Screen/Intervene

- Screen
- Mobility Intervention (Floss)
- Motor Control Intervention (Tape)
- Re-Screen (Check your work)

STAGGERED LEG STANCE

Checkpoints

1. Feet
2. Ankles
3. Knees
4. LPHC
5. Scapulothoracic
6. Cervical
7. Upper extremity

193

Planar Dysfunction

Sagittal

Frontal

Transverse

194

Screen/Intervene

- Screen
- Mobility Intervention (Floss)
- Motor Control Intervention (Tape)
- Re-Screen (Check your work)

195

SINGLE LEG STANCE

Checkpoints

1. Feet
2. Ankles
3. Knees
4. LPHC
5. Scapulothoracic
6. Cervical
7. Upper extremity

Planar Dysfunction

Frontal

Sagittal

Transverse

Screen/Intervene

- Screen
- Mobility Intervention (Floss)
- Motor Control Intervention (Tape)
- Re-Screen (Check your work)

199

Performance Taping

Run

Throw

Kick

Yoga

200

Performance Criteria

Turn On - Activate

Accept Energy - Preload

Stabilize Joints

Release Energy - Unload

Turn Off - Recover

201

Timing

The sequencing and reaction of the forces within the global movement, in all three planes

Without proper timing, there is not optimal loading of the myofascial system in all three planes

Rhythm

Our ability to "turn on" and "turn off" with "flow"

Without proper rhythm, movement (or exercise) we do not get optimal timing in all three planes

Read between the lines……

Isokinetic knee function in healthy subjects with and without Kinesio taping

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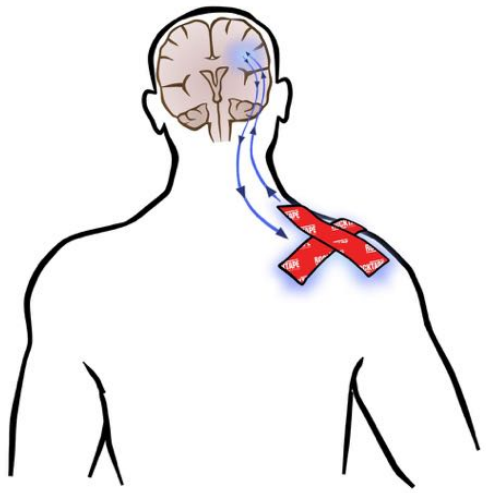
Sports

ABSTRACT

Objective: This study examined the difference in the isokinetic knee performance in healthy subjects with and without the Kinesio tape application onto the skin surface overlying the vastus medialis.
Design: A cross-sectional experimental study.
Setting: Clinical setting.
Participants: 30 healthy participants.
Main outcome measures: Maximal concentric knee extension and flexion at three angular velocities (60, 120 and 180°/s) were measured with an isokinetic dynamometer. Normalized peak torque, normalized total work done and time to peak torque of knee extension and flexion were compared by repeated measures ANOVA.
Results: There was no significant main effect in ANOVA in normalized peak torque and normalized total work done between taping conditions and angular velocities. Conversely, participants demonstrated significant shorter time to peak extension torque with the tape condition ($p = 0.03$). Pair-wise comparisons indicated that such time reduction (36–101 ms) occurred at all three angular velocities ($p < 0.01$).
Conclusion: This investigation demonstrated the application of Kinesio tape did not alter the muscle peak torque generation and total work done but shortened the time to generate peak torque. This finding may contribute to the rationale in injury prevention and rehabilitation in athletes with Kinesio taping.

TIMING/
RHYTHM



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Timing and Rhythm

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RUNNING

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Pre-Contact Contact Swing

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Cross-over Gait Over-stride gait Corrected gait

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Cross-Over Gait

Performance Lateral Chain

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Over-Striding Gait

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Performance Back Chain

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THROWING

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Cock Up Phase

Release Point

Deceleration Phase

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Acceleration

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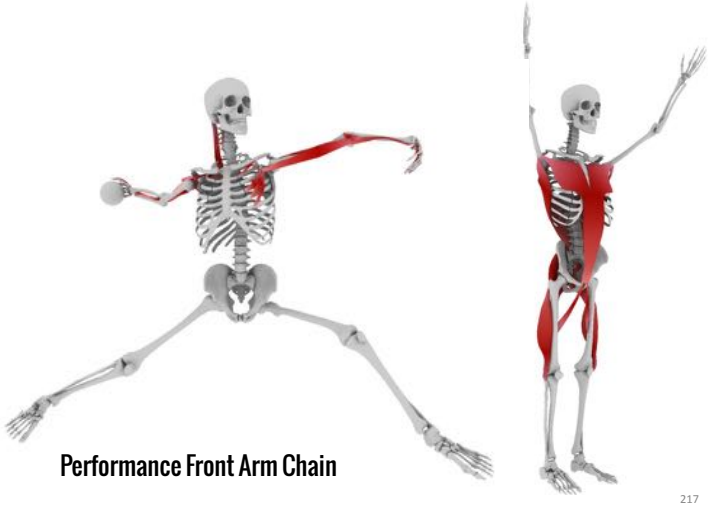
Performance Front Functional Chain



Performance Front Arm Chain

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Performance Front Arm Chain

Performance Front Functional Chain

Deceleration

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Performance Back Functional Chain

Performance Back Arm Chain

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Fascial Chains - Throwing

Left Handed

Right Handed

Performance Back Functional Chain

Performance Back Arm Chain

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KICKING

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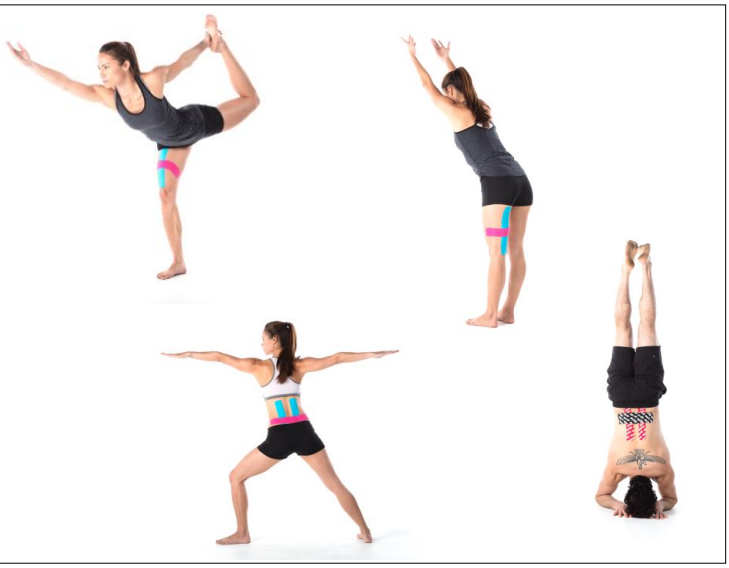
Pre-Load Contact Follow Through

YOGA



Course Summary

- Skin is an extension of the brain
- Tape augments our KQ
- Screen movements, not muscles
- Tape movement, not muscles
- Use fascia as a map/highway
- Corrective Exercise - Re-Patterning

The more you feel, the better you move.
The better you move, the more you feel.

Danny Porcelli, DC

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Be the Pig.

Capo

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Thank you