



Training for Injury Prevention: Are you working all of your fascial slings?

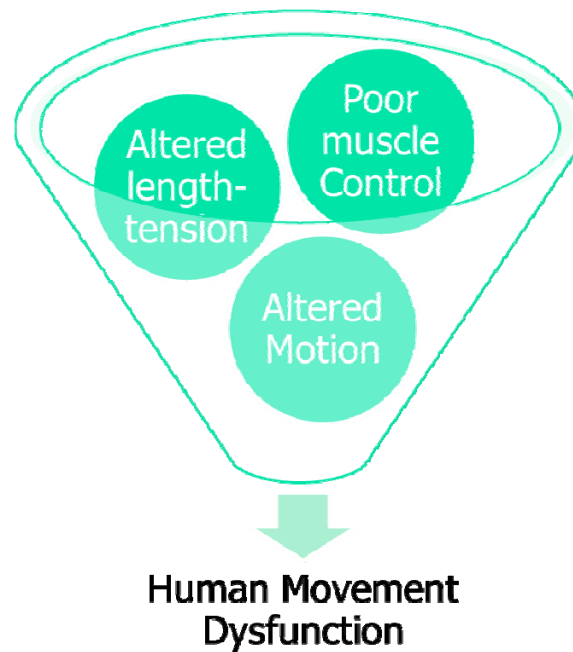
Richard J. Boergers, PhD, ATC

2/20/17

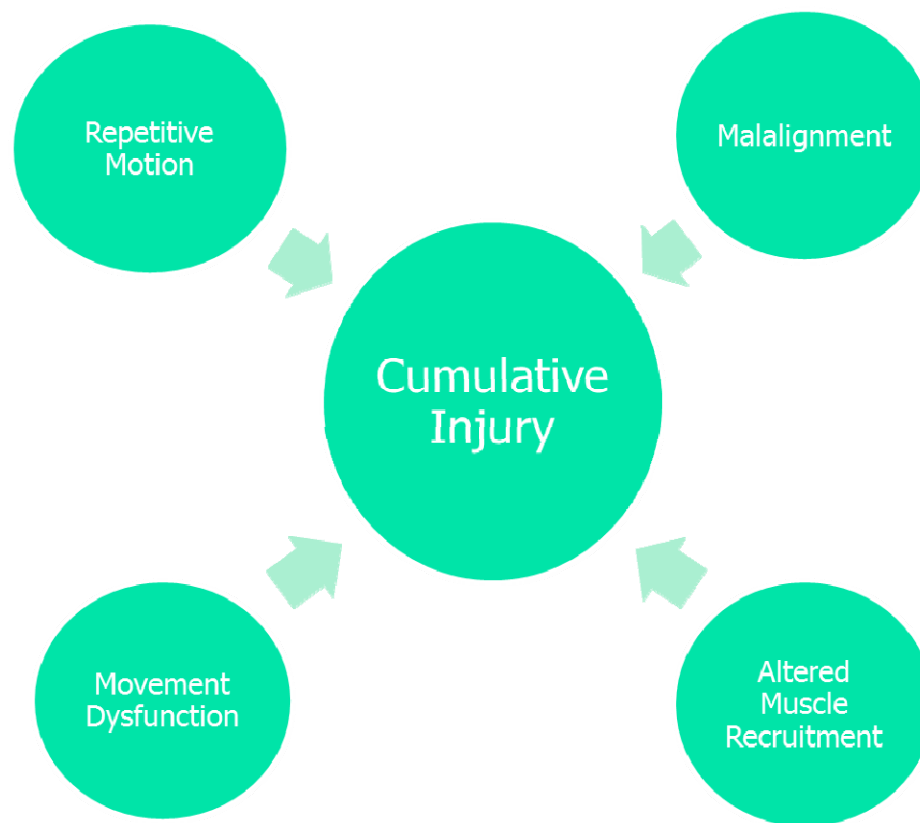
Quick Poll

- How often do you strength train?
- What kinds of exercises do you do when you train?
- How often do you deal with an annoying overuse/chronic injury?
- Do you do any “X” pattern movements when you train?

NASM Model for Movement Dysfunction

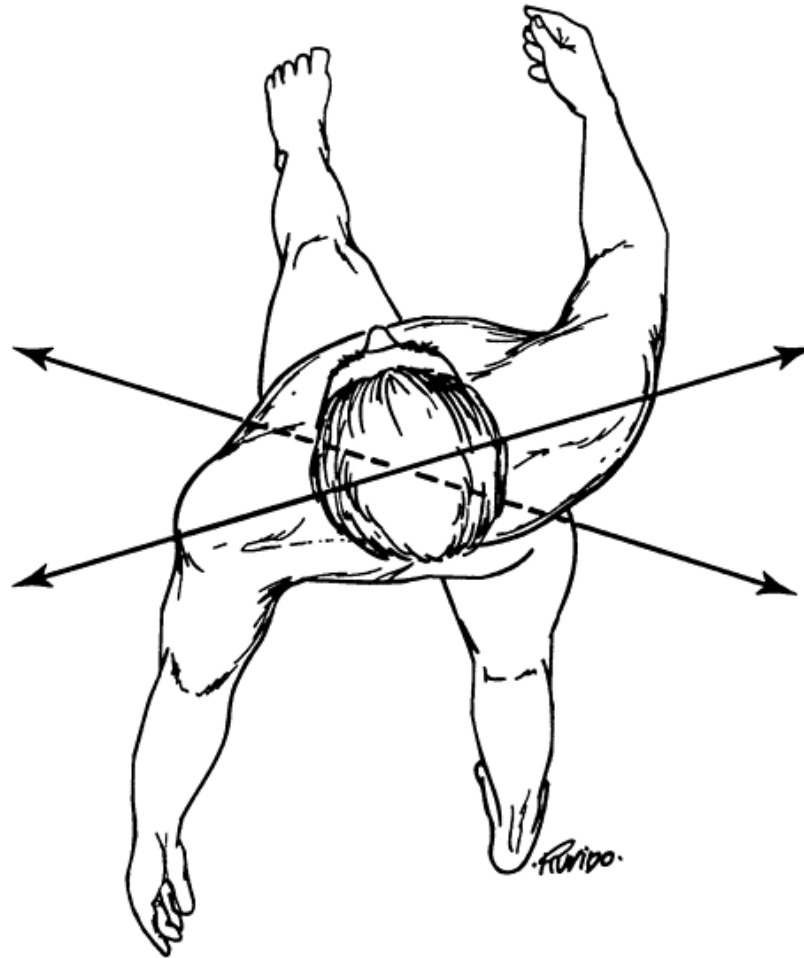


NASM Model for Overuse/Chronic Injury



Notice the rotation
that takes place
when we run

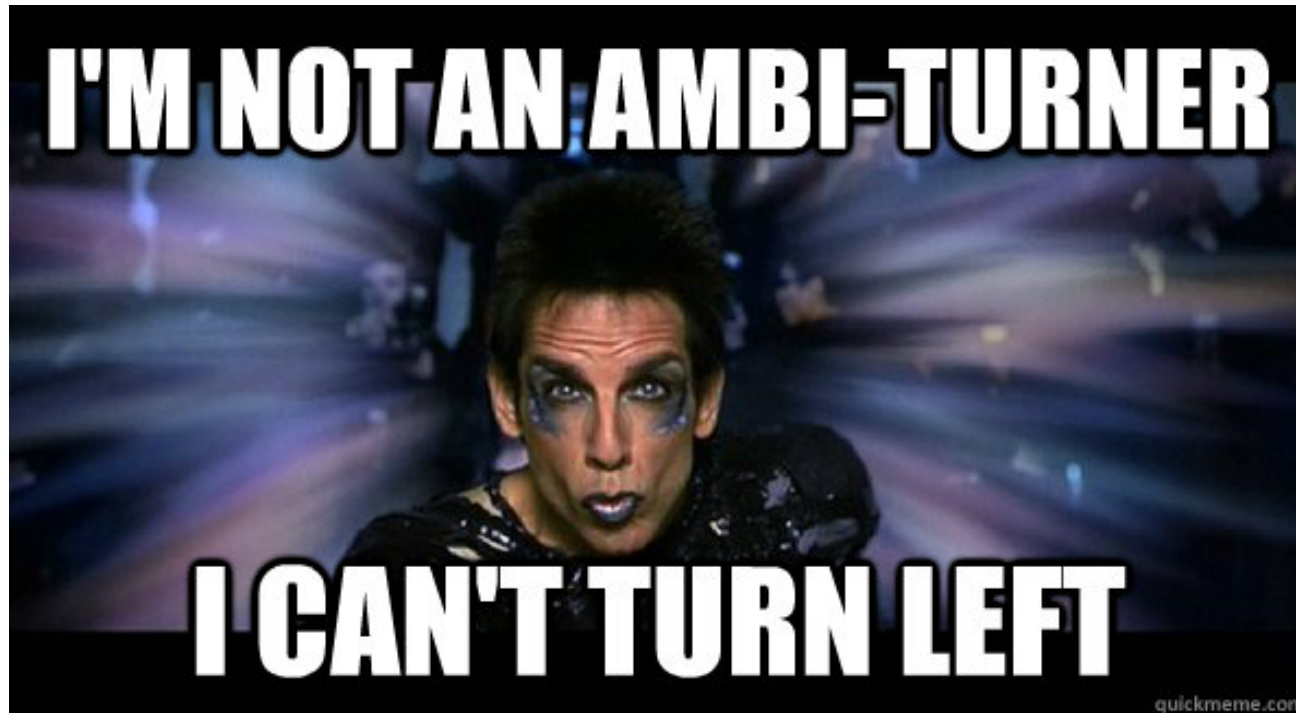
In picture back of left
shoulder is moving
toward right glut and
front of right shoulder
is moving toward the
left hip



In swimming, if we only breathe to one side we get a dominant movement of that posterior shoulder and opposite glute. The problem is – we have an imbalance or weakness on the other side

So this person who only breathes right will have a weak right glut (probably result in knee pain)

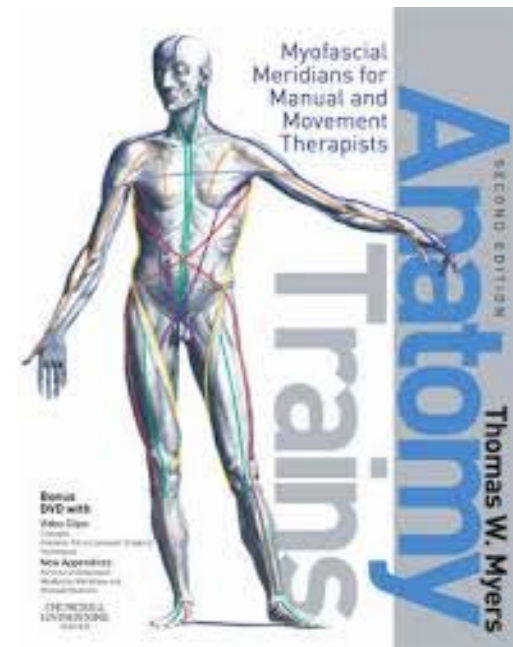




- Is this you? Having a **side dominance** can be very problematic and lead to overuse injuries
- For me personally, I can't turn right (when swimming I only breath left, when biking I look over my left shoulder to check if it's safe to pass, I run track workouts counter-clockwise) – so YES I have a side dominance and therefore I have **movement dysfunction**

Dr. Thomas Myers – Describes 7 Myofascial Lines

- Superficial back line
- Superficial front line
- Lateral line
- Deep front line
- **Spiral line**
- Arm line
- **Functional line**

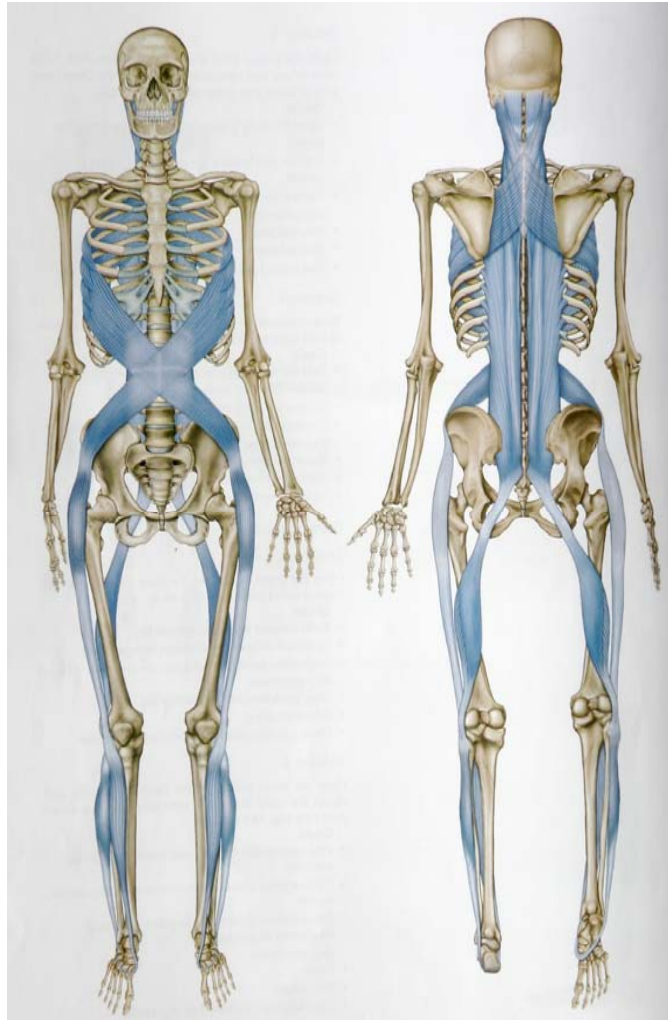


Spiral Line – These muscles & their fascia work together during anti- rotation

- Splenius Capitis
- Splenius Cervicis
- Rhomboids Major/Minor
- Serratus Anterior
- External/Internal Obliques
- Abdominal Aponeurosis
- Linea Alba
- Tensor Fascia Latae
- Iliotibial Tract
- Tibialis Anterior
- Peroneus Logus
- Biceps Femoris
- Sacrolumbar Fascia
- Erector Spinae
- Multifidi

MyoFascial Lines:

The Spiral Line



Functional Line - These Subsystems (muscle and fascia) are activated while doing chopping (X) patterns

- Anterior Oblique subsystem
- Intrinsic Stabilization subsystem
- Posterior Oblique Subsystem

- The Anterior Oblique Subsystem

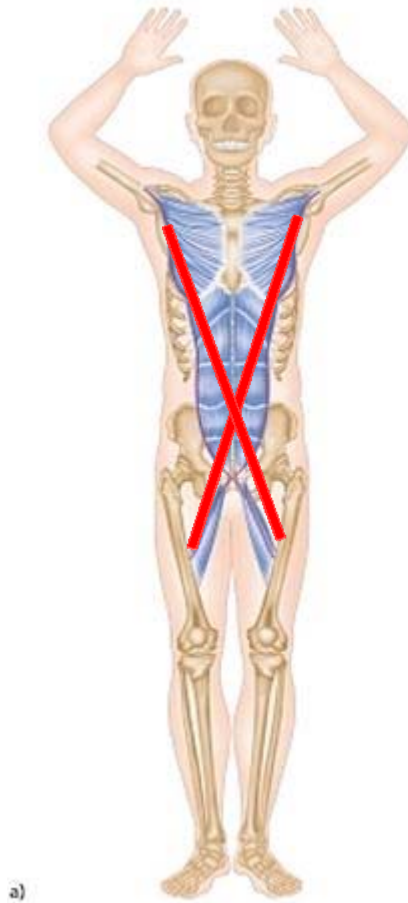
- External Obliques
- Abdominal Fascia/Linea Alba
- Contralateral Anterior Adductors
- Internal Obliques
- Rectus Abdominis

- Posterior Oblique Subsystem
 - Latissimus Dorsi
 - Thoracolumbar Fascia
 - Contralateral Gluteus Maximus
 - Glutues Medius

MyoFascial Lines:

The Functional Lines

- (a) Anterior Oblique sub-system
- (b) Posterior Oblique sub-system



Assessing Your Functional & Spiral lines

- Rolling Patterns

- Lay on back – completely relax legs – reach arm up and across your body and watch the **quality** of the roll. *Compare to other side.*

- Beast

- Get into beast position. Lift alternate arm and leg 2 inches from ground. Look at how stable that is. *Compare to other arm/leg.* (see slide 22 underswitches)


- Crab

- Get into crab position. Lift alternate arm and leg 2 inches from ground. Look at how stable that is. *Compare to other arm/leg.* (see slide 22 underswitches)

OR to simplify things– what is your dominant side?

Typical Profile – Example Right Hand Dominant

- Weak Left Glut
 - Weak Right Posterior Shoulder
 - Short/contracted Right Front Shoulder
 - Short/contracted Left groin
-
- Usual Problems:
 - Ankle or knee issues on the Left side
 - Shoulder impingement or tendinitis right side



**Keep in mind this is typical
(doesn't always hold true)**

Exercises that will challenge your Spiral & Functional lines

- Isolating a single muscle (ie – machines at a gym) will **NOT** help with these lines
- Remember, the human body works in 3 dimensions of movement (especially the spiral and functional lines) and muscle/fascia lines work together in unison
- These exercises were developed to work the muscle/fascia lines
- Impt. Note – (we have 3 levels of exercises: they get progressively harder from level 1-3)
- Impt Note – work both sides, but do more reps on weak side

Serape Squat (Level 1 Exercise)



Standing Pallof Press (Level 1)



Kneeling Band Chops (Level 1)



Half Kneeling Band Chops (Level 1)



Underswitches (Level 1)



Crab – note
butt is 1 inch
off ground



Beast – note
knees are 1
inch off ground

RIP Trainer Drive Marches (Level 1)



T-Spine Chainsaws (Level 1)



Rip Drag Hip Extension (Level 1)



Dead Bug Pallof Press (Level 2)



Standing Pallof Circles (Level 2)



Shoulder Tap (Level 2)



Guns in Holster (Level 2)



Beast w/ Limb Lift (Level 2)



RIP Trainer Take 2's (Level 2)



RIP Stacked Squats (Level 2)



Ultimate Sandbag Baby Carry (Level 2)



USB Lateral Bag Drag (Level 3)



Prone Rows (Level 3)



Prone Pull Through (Level 3)



Reverse Soft Toss Ball Catch (Level 3)



Cable Column Chops: Upward & Downward



Important point: this is not
arm initiated – twist from
your obliques



Tools of the Trade

- TRX Rip Trainer



- Power Bands



Ultimate Sandbag



Soft Med Ball



General Strength Training Rules

- Start with Dynamic Warm up
- Do multi-joint exercises before single-joint exercises
- Work large muscles before small muscles
- Include a few anti-rotation exercises daily!!!

Summary

Side dominance creates dysfunction and often leads to overuse/chronic injury.

Get your body balanced!!!!

Anti-rotational exercises help correct side dominance.

This will improve your Swim, Bike, Run!!!

Reminder Next Program:



Athlete Education Series

**Train Your Brain
With Nicci Schock
Monday March 20 @ 7pm
@ NJ Running Co**

Resources

