

What Every Athlete Needs, Starts With Why

Michael Boyle

CSCCA National Conference

Nashville 2015

Thanks

- Simon Sinek author of the book Start With Why
- Chris Poirier and Perform Better

STRENGTHCOACH.COM
THE WORLD'S BEST SOURCE OF PERFORMANCE ENHANCEMENT INFORMATION

STRENGTH COACH PODCAST



The Official Podcast of
StrengthCoach.com

BODYBYBOYLE
ONLINE

Newest Book

MICHAEL BOYLE

Featuring 50 articles from the *strengthcoach.com* archive, Michael Boyle's new collection develops his coaching theory and training ideas developed over decades of coaching experience. From the lessons he's learned over the years, to his coaching influences...from his ideas on coaching kids to sports-specific training, this book covers his recent writing since the publication of *Advances in Functional Training*.

Michael Boyle is a popular speaker, coach and author, and is a trusted contributor in strength & conditioning and the field of sports performance enhancement. He has been involved in the training and rehabilitation of a wide range of athletes in most major collegiate and professional sports, including the Boston Red Sox and the US Women's Olympic teams in soccer and ice hockey. His work has been featured in the media on *HBO RealSports*, *ESPN*, *CNN*, *SI*, as well as in *Sports Illustrated* and *USA Today*.



This is his fourth book on functional training for athletics.

"Mike Boyle understands elite performance better than anyone. Did this new thing help or hurt? If it helps, Mike keeps it and, remarkably, if it hurts, he tosses it out without hesitation. I read everything Mike writes and I sit in the front row when he speaks. He's gracious, helpful and insightful, and I'm proud to call him my friend." ~ Dan John, author of *Intervention*

For more from Michael Boyle, please visit

STRENGTHCOACH.COM
STRENGTHCOACHBLOG.COM
BODYBYBOYLE.COM
BODYBYBOYLEONLINE.COM
PERFORMBETTER.COM



MICHAEL BOYLE

FUNCTIONAL COACHING READER

MICHAEL BOYLE'S FUNCTIONAL COACHING READER



The
StrengthCoach.com
Files

10 years ago Michael Boyle had an idea to film a seminar. Little did we know that this would turn into a series of five that would sell thousands of copies and influence coaches around the world

MIKE BOYLE
MBSC
STRENGTH & CONDITIONING

www.functionalstrengthcoach5.com

Copyright 2014 Athletes Acceleration & MBSC all rights reserved. Unauthorized distribution, duplication or exhibition of this DVD is expressly prohibited and is subject to criminal prosecution or fines of up to \$200,000.

FUNCTIONAL STRENGTH COACH 5

DVD
VIDEO

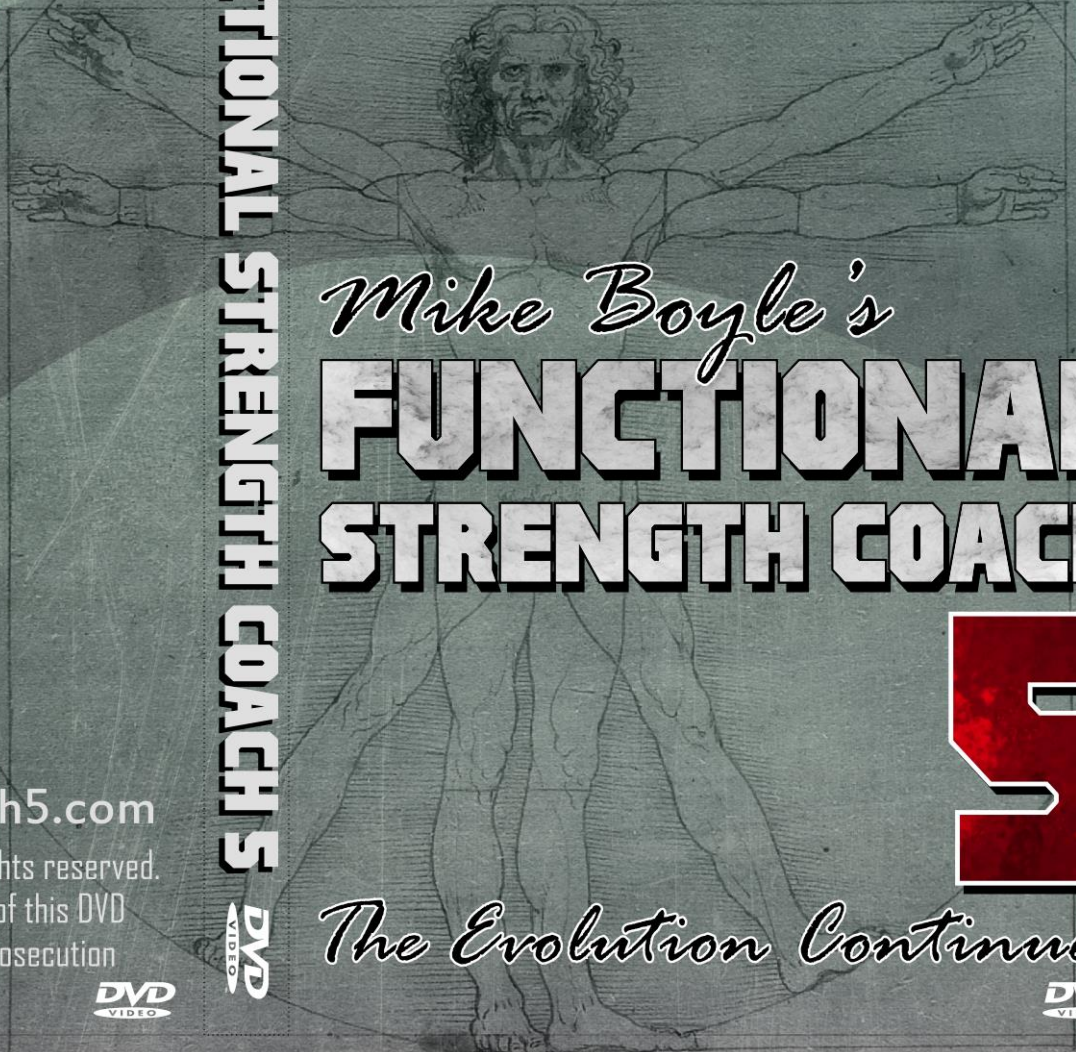
DVD
VIDEO

Mike Boyle's
**FUNCTIONAL
STRENGTH COACH**

5

The Evolution Continues

DVD
VIDEO



Contact Info

- mboyle1959@aol.com

USWNT04



1995 and 2009 National Champs

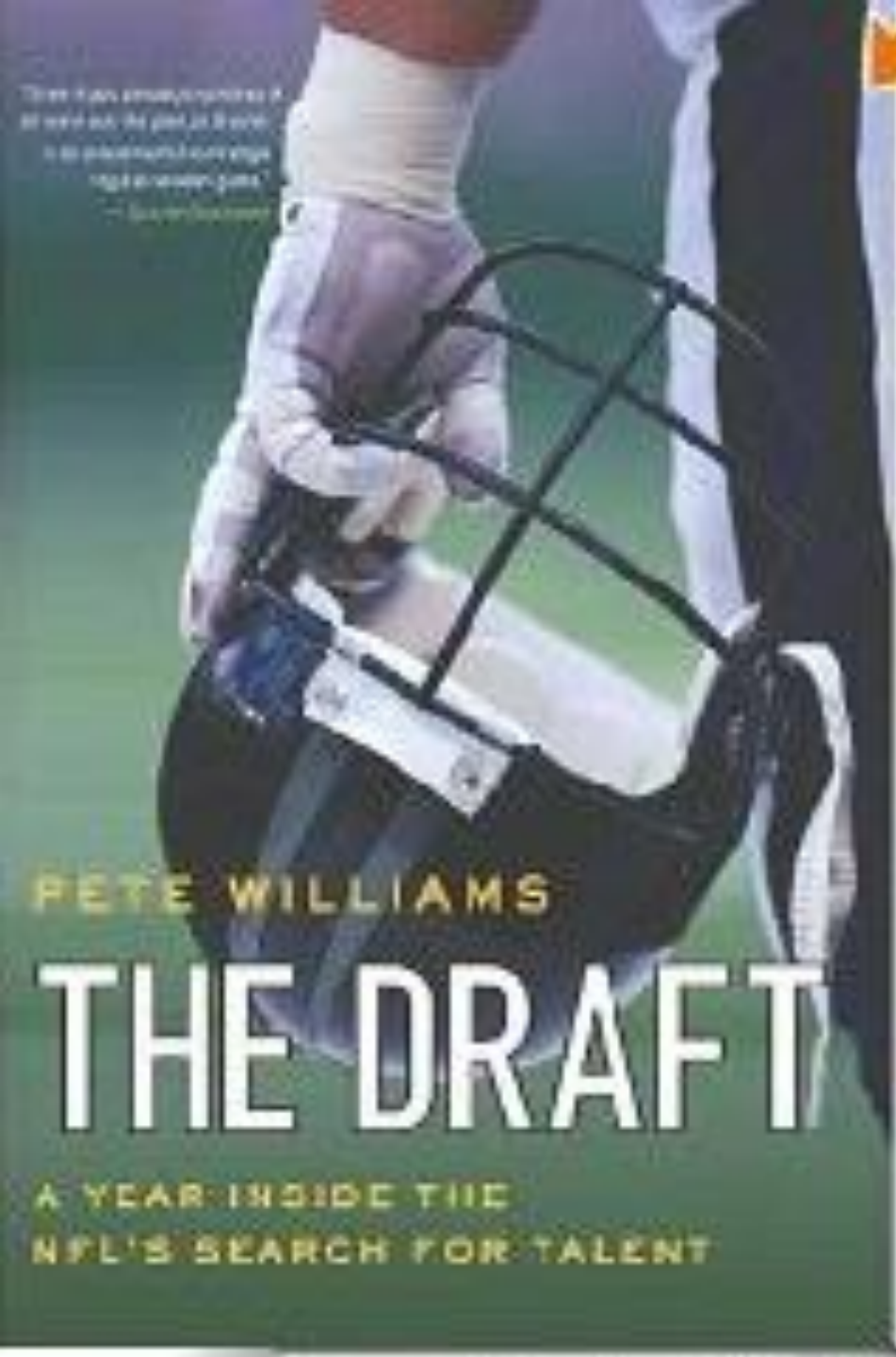


USA Hockey



Boston Red Sox



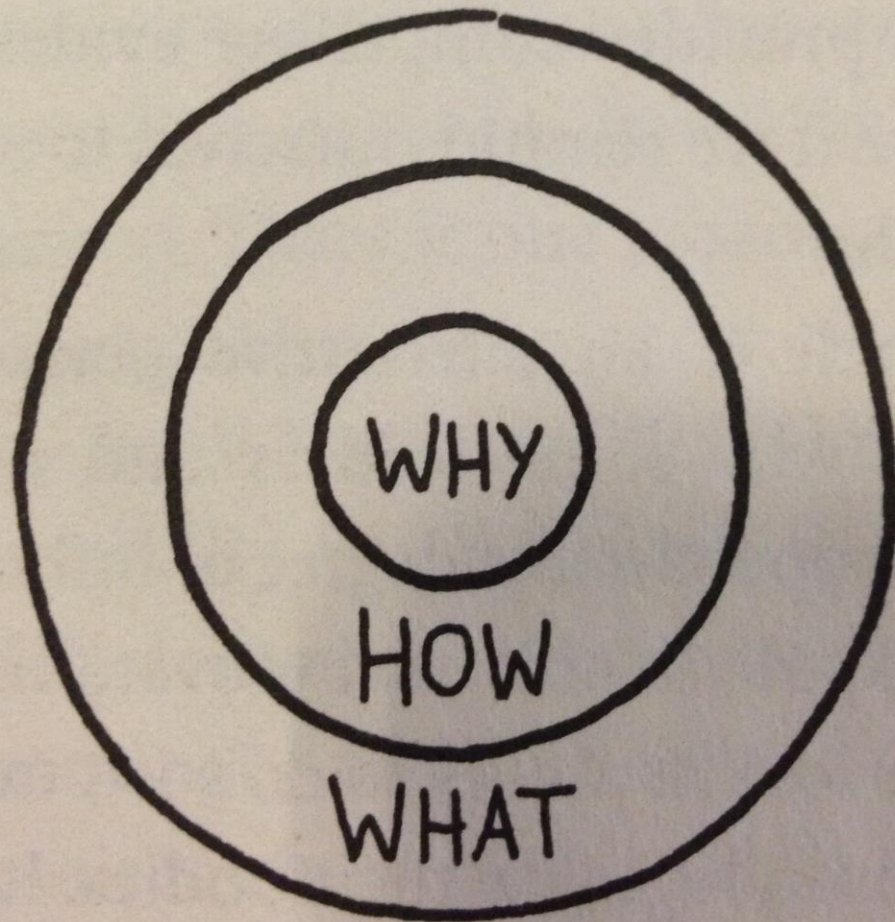


The Draft- A Year Inside the NFL's Search for Talent

Clay Shirky?

- “ the problem isn’t information overload, it’s filter failure”
- Never Eat Alone- Keith Ferrazzi

- “Common sense is not very common”
- Voltaire
- Please don't make a Youtube ass of yourself, it hurts our profession



Our Controversy is in Our Why?

- Why can't we do what we always did?

- "What if the way we have always done it was wrong?"
- Lee Cockrell in Creating Magic

Is This Us?

The Fundamental Question

- “ why did we start doing what we are doing in the first place” p 51
- Why are we strength and conditioning coaches?
- What is our job?

Three Goals of Strength and Conditioning

- 1- Prevent injuries caused by training. Look at risk benefit.
- 2- Prevent injuries in competition
- 3- Improve performance
- If you get out of order you risk having key players miss key games.

Risk - Benefit



Our Job Is To Help the Team Win!

- How do teams win?
- Statistically speaking by having their best players playing.
- This means that our job is injury prevention before performance enhancement.

- Man games lost
- Starters games missed
- Disabled list games
- (payments to injured players is one of the largest expenses in professional sports)

What is Our Why?

- To improve player performance while keeping players healthy.
- My experience proved that my early philosophies made these tasks mutually exclusive.

Evolution of a Strength Coach

- Bodybuilder
- Powerlifter
- First job (my what and how determined by my experience)
- Injured powerlifter- questioning what I knew?

Evolution of This Strength Coach

- What are my beliefs?
- What does the science say?
- What do my experiences tell me/us?

Karl Tanswell

- “ I’m not better than you guys. I just got to the knowledge first”

The Why's

Why We Roll

Myers- locked long and locked short
concept

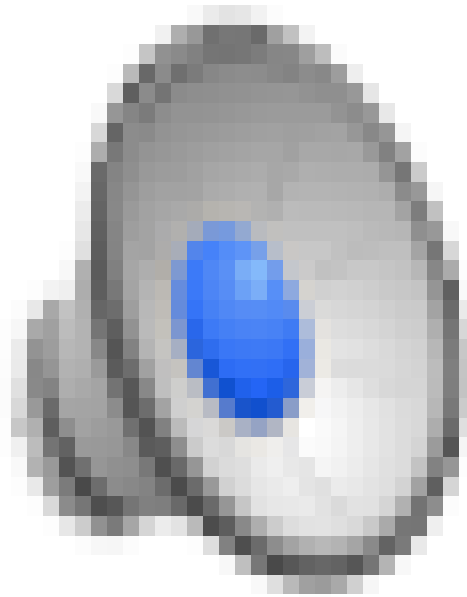
Creep? Locked Long

- “Mechanical creep, defined as elongation of tissue beyond its intrinsic extensibility resulting from a constant load over time.” **Wilhelmi BJ, Blackwell SJ, Mancoll JS, Phillips LG. Creep vs. Stretch: A review of viscoelastic properties of skin. Ann Plast Surg. 1998; 41:215-219**
- “A property common to extensible soft tissues is that they become stiffer as they are extended due to the reorientation of collagen fibers. A stretch of a magnitude of 3-8% causes tearing and inflammation while applying a lesser stretch of 1-1.5% (load deformation) will have a similar affect.” **Currier DP, Nelson RM. Dynamics of human Biologic Tissues Philadelphia:FA Davis Co; 1992**
- “Sitting with the back slouched for as little as 20 minutes can result in increased laxity of the posterior spinal ligaments. It may take 30 minutes or more for these ligaments to regain their previous level of stiffness.” **McGill SM, Brown S. Creep response of the lumbar spine to prolonged full flexion. Clinical Biomechanics. 1992; 7: 43-46.**

Knots- Locked Short



Group Rolling



Why We Stretch

- “Tightness of the anterior hip structures results in increased compressive loading to the facets during the push-off phase of gait since the femur cannot be brought back into hyperextension. Therefore the lower extremity is placed behind the body by extending the pelvis under the lumbar spine”
Porterfield and DeRosa Mechanical Low Back Pain p.137

Why We Stretch

- Anti-stretch research is not compelling
- Effects of Static Stretching on Vertical Jump Performance- Evans et al 2006
- Statistically significant, practically irrelevant. 8 minutes of stretching caused power decreases in the 5-7% range.

Practical Irrelevance?

- Non countermovement jump decreased from 21.2 to 20.3. Counter movement jump decreased from 23.3 to 21.8.
- Would you trade these for health?
- Are the results “washed away” by a dynamic warm-up?

Did We Throw Out the baby With the Bathwater?

- Stretching is not warm-up
- It precedes proper warm
- It lays the ground work for better warm-up
- Most importantly it is the key to long term injury prevention.

Injury Stats

- Approx 780 games
- 4 games missed

- Pre Olympic Tour 2013
- Zero games missed?

Why From the Hang?
Why the Rock?

The Plate Diameter is a Constant,
People Aren't

4'10" 65 lbs



6'8" 315 lbs



From the Hang, All Men (and women)
Are Created Equal

The “Rock” =

- Rotary hip action
- Vertical jump mechanics
- Double knee bend (Carl Miller)
- The “scoop”
- Extension- flexion- extension

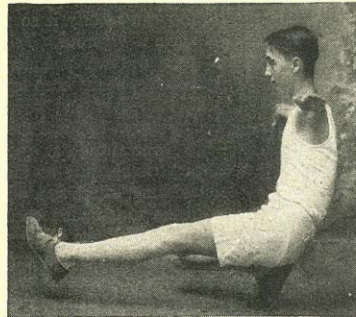
Why Unilateral Training?

the other
arly thick-
y his fail-
ule that he
. The pity
l, he most

that chap,
u rig up a
strain and
h the feat,
-lb. dumb-
of times in
cessary bi-
just decide
k and let it
you would
d he would
chin in two
grasp the
up and let
you gained
amount of
-instead of
s to quickly
and so on,
l a pair of
t you could
t that while
cond is far
ss danger of



l bars use two
r knees clear of



Squatting on one leg will do a lot more for you than squatting on the two legs together

strained arm, back and shoulder muscles. To the man who cannot raise his weight unassisted, chinning the bar once is an heroic feat of strength. When the first method is tried and the impetus of the leg spring is exhausted and the arm and upper-body muscles suddenly assume the task of raising the body's weight, it very frequently results in a slight, but painful strain of the muscles and tendons. The pain alone is sufficient to deter one from the regular practice that is necessary.

The back, arms and shoulders. Let us pass to another group of arm muscles; the triceps, that straighten the arms, the ones that help push you up when you try to dip on the parallels. Again I ask, have you ever watched a bunch of novices try that stunt? It is one of the most valuable of all exercises, but for every man who fails to chin once you will find two that cannot master a single "dip." It is a comparatively simple matter to support the body's weight on straight arms, with legs hanging down, but when you start to bend the arms, the body goes down with a rush until the armpits are close to the hands, and as most parallels are several feet from the floor, there you are, stuck! You can't for the life of you straighten your arms and raise your body, your chest muscles feel as though they are being torn from their fastenings, and so, with considerable discomfort, you squirm out of your position and drop to the floor.

I think I can hear you. Why not use the backs of two chairs as parallels, or better still, why not practice the good old reliable "floor dip," where you are face downward,

weight supported by palms of hands and toes and raise the weight of most of the body by alternately bending and straightening the arms?

Good! You are getting the idea. Always work up to your stunt. Train the necessary muscles by means of similar but easier feats.

In the case in hand the floor dip is safer and easier than the dip between chairs, because the man who is too weak to do a single dip on the high parallels finds it utterly impossible to keep the chairs upright.

Even the floor dip taxes an unconditioned beginner. The first rule of the floor dip is that the body be held as stiff as a board; one straight line from neck to heels and would you believe me if I told you many people are so weak in the waist muscles that they cannot hold the body straight. Fact! Just get your own family and friends to try it and you will find with the majority the body bends and the abdomen hits the floor before they begin to bend the arms. What is the remedy. Reduce the wheel-base. Rest weight on knees and palms of hands and learn to dip that way first.

But if you want to develop those triceps why not practice pushing a light bar bell aloft. Use any weight that is comfortable for you. Fifteen or twenty pounds if you are very weak. Most gyms now have adjustable weight bar bells, and you will find that you can increase the weight by jumps of ten or five or two and a half pounds (always reducing the increase as the bell gets really heavy) with the most gratifying results in the increased bulk, shape and



Just a variation of the same exercise as is illustrated by the photograph above.

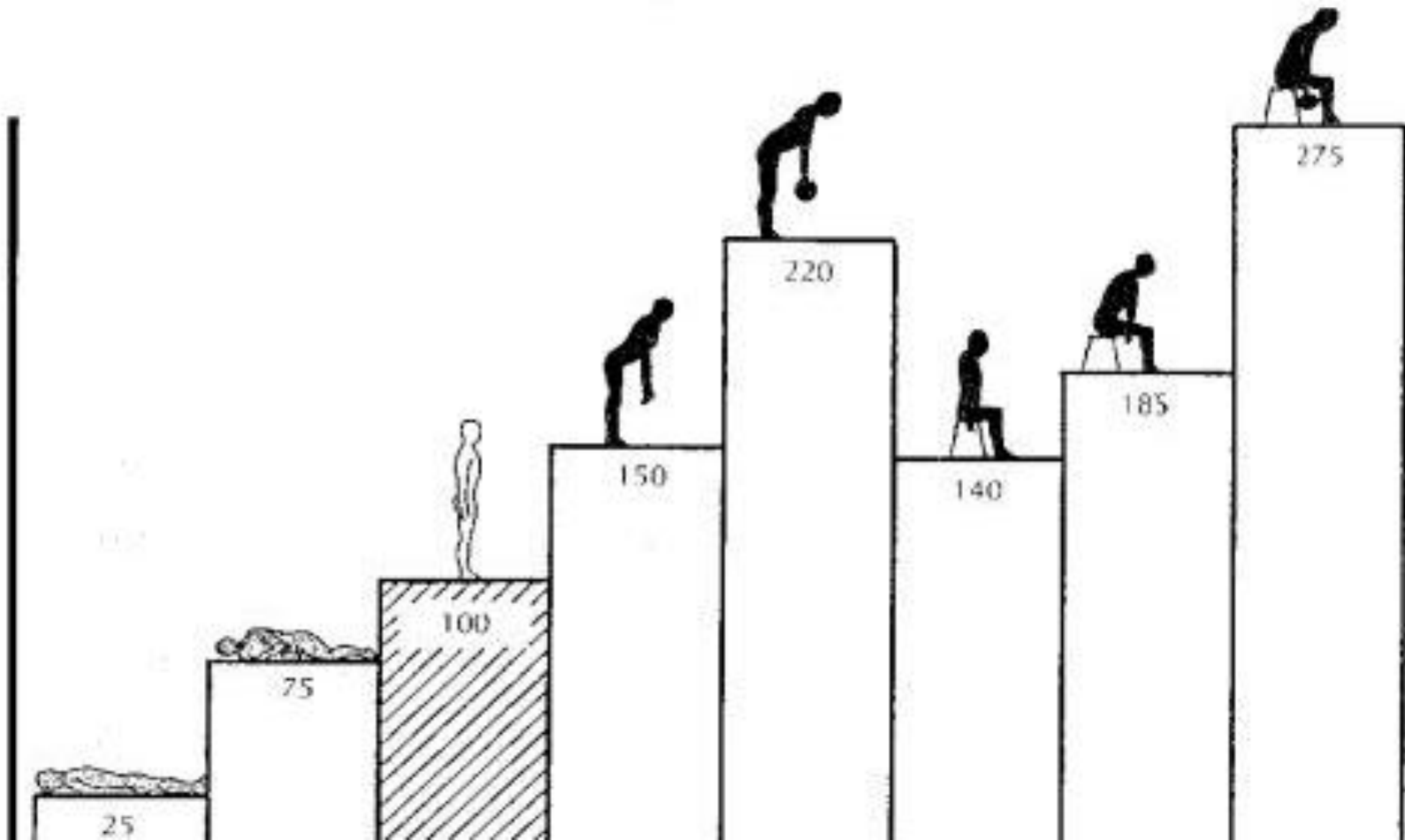
Why Everyone Shouldn't Squat?

- <http://themotionfix.com/the-best-kept-secret-why-people-have-to-squat-differently/#>

Back Enemies

- Inflexibility (floor slide example)
- Torque- rotation
- Shear- forward lean
- Compression- bar above

Torque and Shear?



Floor Slides- Lack of ER?

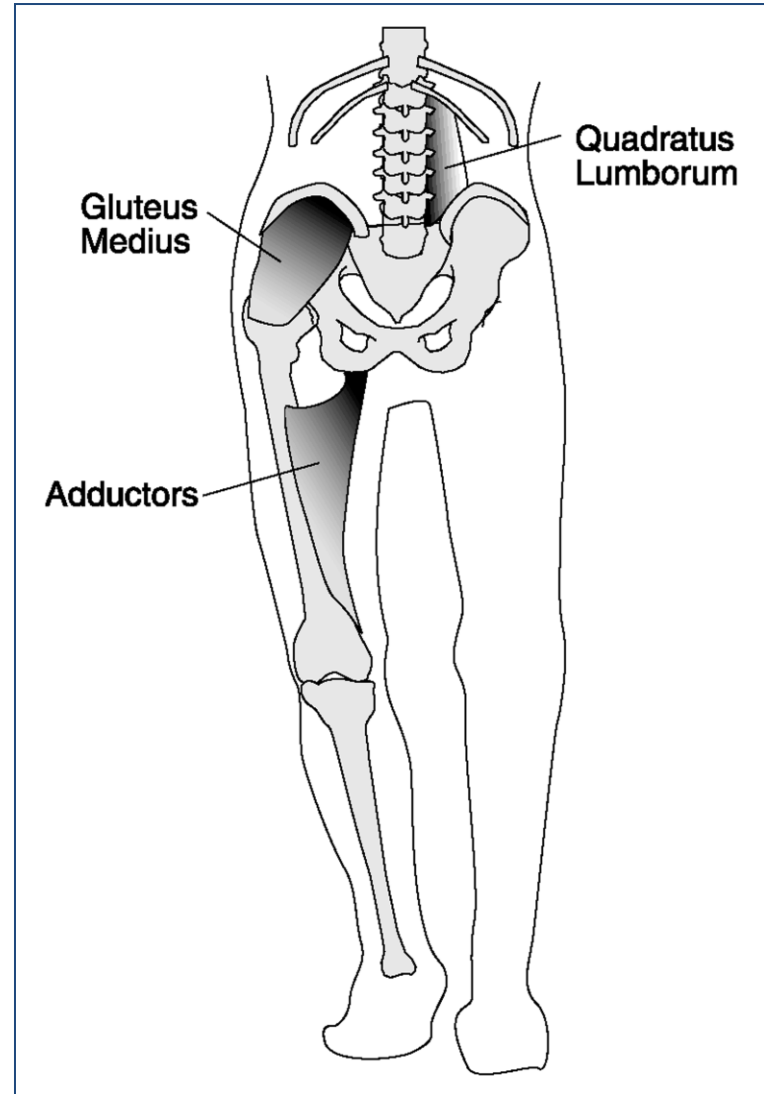


Unilateral Training?

- Free weights vs machine (more balance and greater stabilizer work)
- Unilateral vs bilateral????

Lateral Sub-System

- Muscles
 - Gluteus Medius
 - TFL
 - Adductor Complex
 - Quadratus Lumborum
- Function
 - Frontal Plane stabilization



Bilateral Deficit

- Abstract -The bilateral limb deficit (BLD) describes the difference in maximal or near maximal force generating capacity of muscles when they are contracted alone or in combination with the contralateral muscles. A deficit occurs when the summed unilateral force is greater than the bilateral force.
- Eur J Appl Physiol (2006) 97: 322-326 DOI 10.1007/s00421-006-0188-7
Kuruganti and Seaman

Rear Foot Elevated Split Squat



How Strong is Strong?



Hip Dominant- Straight Leg How Strong is Strong?



Why Core? Why Our Way?

- Anti- is the key word
- “Weakness of the abdominal wall results in an increase in the anterior rotary motion of the pelvis. The motion increases extension and, compressive loading of the lumbar facets.”
- Porterfield and DeRosa
- Mechanical Low Back Pain
- P.137

How Come All The Smart People Don't Agree?

- Is it possible that they don't want to?
- Do we debate the minutiae?
- Do we focus too much on the differences and too little on the common denominators?
- Can we use all of this info?

Is Core Training Really a Process of Neuromuscular Re-education

- My belief is that core training is more about teaching people how to move the right joint than about strength. This explains our “activation” exercises.
- Movements of the extremities are designed to perturb (stress) the core.
- You must learn to stabilize against greater and greater forces

The Key

- “Pain never precedes dysfunction”
- Stanley Paris
- If your _____ hurts something is already wrong

Two Things To Avoid

- Repeat flexion (you need ROM but, not reps)
- Attempting to increase rotational ROM

Don't's



Role of the Abdominal Musculature

- During most activities, the primary role of the abdominal muscles is to provide isometric support and limit the degree of rotation of the trunk which, as discussed, is limited in the lumbar spine.
- Sahrman p 70

Revisiting Rotation

- Rather than considering the abdominals as flexors and rotators of the trunk- for which they certainly have the capacity-their function might be better viewed as antirotators and antilateral flexors of the trunk.
- Porterfield and DeRosa- Mechanical Low Back Pain, WB Saunders 1998, p99

Lumbar Rotation?

- The overall range of lumbar rotation is ..approx 13 degrees. The rotation between each segment from T10 to L5 is 2 degrees. The greatest rotational range is between L5 and S1, which is 5 degrees...The thoracic spine, not the lumbar spine should be the site of greatest amount of rotation of the trunk... when an individual practices rotational exercises, he or she should be instructed to “think about the motion occurring in the area of the chest”
- Sahrman, Diagnosis and Treatment of Movement Impairment Syndromes, Mosby 2002, p61-62

Rotation cont.

- Rotation of the lumbar spine is more dangerous than beneficial and rotation of the pelvis and lower extremities to one side while the trunk remains stable or is rotated to the other side is particularly dangerous.
- Sahrman p. 72

???

- “If you can squat and deadlift big weights you don’t need core training”
- Gray Cook- “strength on top of dysfunction”

Enter PRI

- FMS validated how we trained. (unilateral, core, mobility)
- However, the goal was symmetry.
- PRI may change what we do in a more fundamental way.
- Do we need to create symmetry, or do we need to correct asymmetry.

Why Breathing?

Breathing?

- Inhale diaphragm contracts concentrically
- Exhale- deep abdominals assist with late exhalation
- PRI- Value of Blowing Up a Balloon.
- Balloon demo

Diaphragm Example

- <http://www.youtube.com/watch?v=hp-gCvW8PRY>

Good Breathing Review

- <http://www.mikereinold.com/2013/04/breathing-pattern-disorders.html>

Is This Stupid?

- Or, am I stupid?
- The more we learn, the more we are able to understand.

ANS/ SNS/ PSNS?

- Huh?
- Curse of Knowledge
- Curse of Stupidity
- $ANS = SNS + PSNS$
- Confusion?

Para-Sympathetic

- REPAIR + HEALING
- Decrease stress increase para-sympathetic activity

Sympathetic

- Fight or flight (stress)
- Stress up = Sympathetic Elevation
- I really should have paid attention

Re-understanding the Draw-In
or the Brace?

Integrating Core and Breath

- Big, long exhales on the concentric
- 5 sec holds for breathing

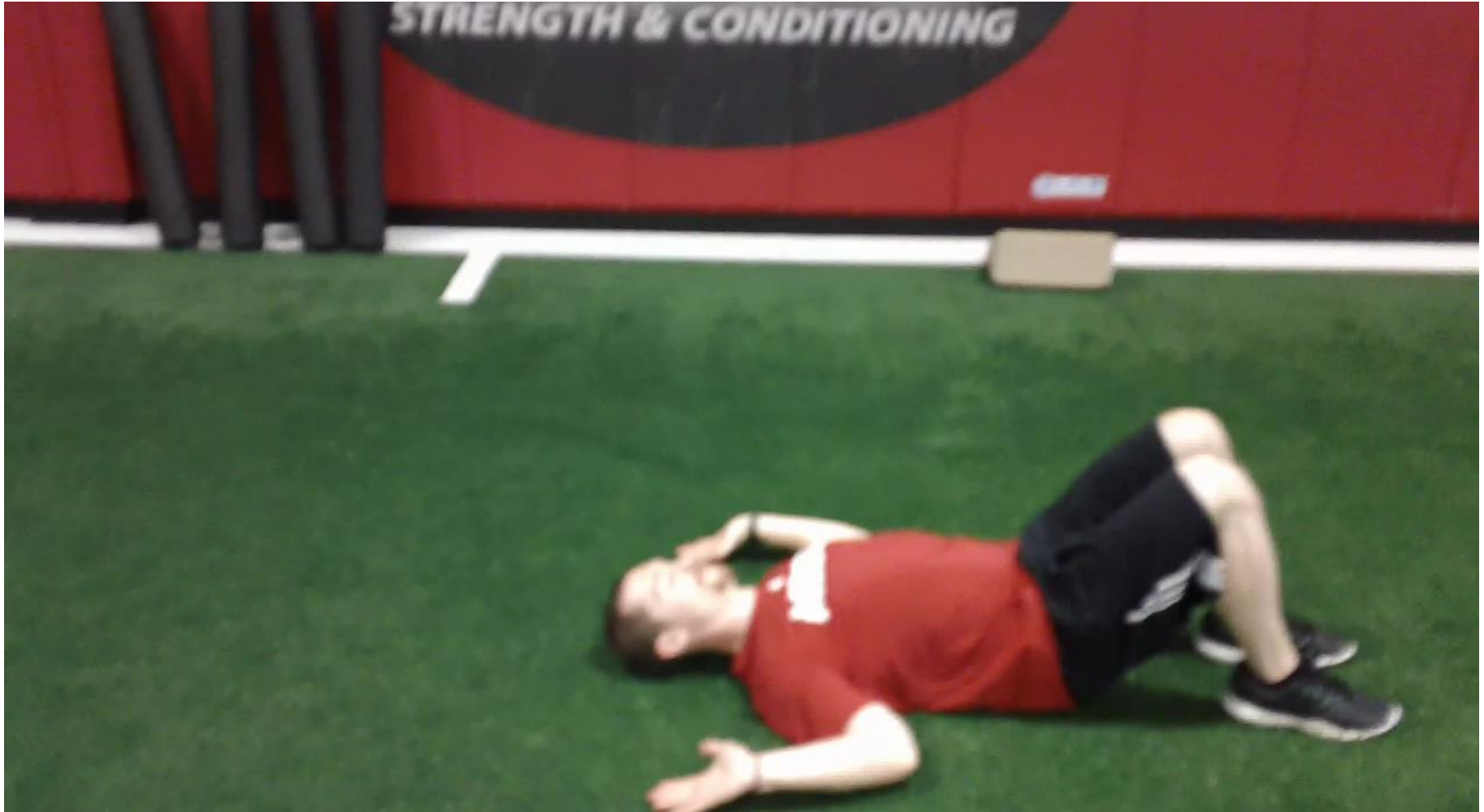
Through the Nose?

- <http://fitness.mercola.com/sites/fitness/archive/2013/12/27/proper-exercise-breathing.aspx>

Mercola- Mouth Breathing During Exercise

- When you breathe through your mouth, many of the things that are *supposed to happen* don't, because the air bypasses this part of your respiratory system before it enters your lungs. When you take in air through your nose, the following beneficial processes occur:
- Air is warmed and humidified before it hits your lungs.²
- The cilia, or tiny hairs, lining your nose trap pathogens, dust, and other foreign particles, acting as a pre-filter before the air reaches your lungs.
- Nerves in your nasal passages (which connect to your hypothalamus) sense everything about your breathing and use that information to regulate it.
- Nitric oxide (NO) is made by your nose and sinus mucous membranes, so when you breathe through your nose, you carry a small amount of this gas into your lungs.^{3, 4} NO is a potent bronchodilator and vasodilator, so it helps lower your blood pressure and significantly increases your lungs' oxygen-absorbing capacity.^{5, 6, 7} NO also kills bacteria, viruses and other germs, so nose breathing helps keeps you from getting sick.
- When you breathe through your mouth, NONE of these functions can take place. Mouth breathing is analogous to expecting your body to make use of food by bypassing your stomach – it would be missing some critical steps in the digestive process, and the end result would not be good.

Floor Slides



Why We Pull Heavy

Chin-up

45x5



Chinup 135x3



Books

- Start With Why- Sinek
- Made to Stick- Collins
- Creating Magic- Cockrell
- Never Eat Alone- Ferrazzi
- First Break All the Rules- Buckingham
- The Slight Edge- Olsen
- Anatomy Trains- Myers