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Global Director, Performance & Fitness Training for Nike, Inc.

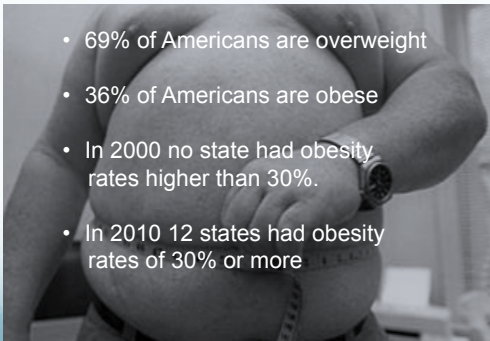
- Formerly Senior Director of the Equinox Fitness Training Institute
- Masters in Exercise Physiology, Columbia University
- Media Fitness Personality (Today Show, Dr. Oz, CBS Morning Show, Fox News, NYT, People)
 - Author, *Fit & Female*
- FMS Educator & Expansion Team Member

- My Objectives**
- Convince
 - Inspire
 - Manage Expectations
 - Enable



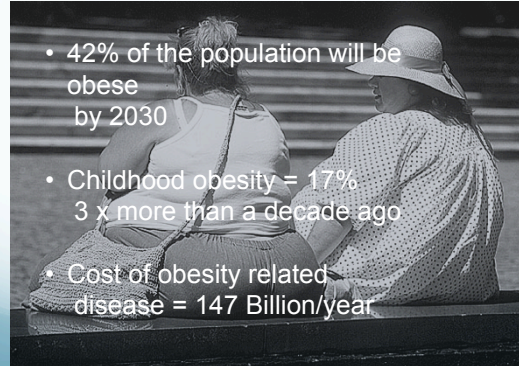
Why?
**A Sorry
State of Affairs**

State of the Country?



- 69% of Americans are overweight
- 36% of Americans are obese
- In 2000 no state had obesity rates higher than 30%.
- In 2010 12 states had obesity rates of 30% or more

State of the Country?

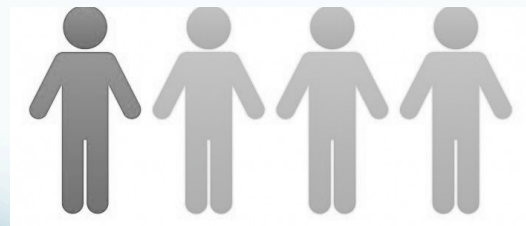


- 42% of the population will be obese by 2030
- Childhood obesity = 17%
3 x more than a decade ago
- Cost of obesity related disease = 147 Billion/year

How We Doin'?

- 48% met guidelines for aerobic activity
- 24% met guidelines for muscle-strengthening
- 21% met guidelines for both aerobic AND muscle-strengthening
- Source: CDC, 2011

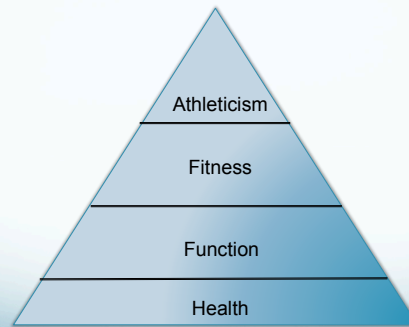
Less Than 1 in 4



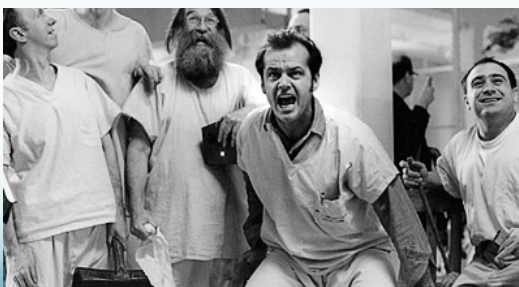
“Hypokinetic Disease”

- Cardiovascular disease
- Some forms of cancer
- Back problems
- Obesity
- Type 2 diabetes
- Osteoporosis
- Mental health
- High Blood pressure
- Heart disease

Training Hierarchy



The Inmates Are Running The Asylum



People Who Are Trying To “Get In Shape” Are Getting Hurt



The Nature and Prevalence of Injury During CrossFit Training.

- 132 responses
- 97 (73.5%) sustained an injury during CrossFit training
- A total of 186 injuries were reported with 9 (7.0%) requiring surgical intervention.”
- Injury rates similar to O-Lifting, power lifting & gymnastics

Hak, PT, Hodozovic E and Hickey B, J Strength Cond Res. 2013 Nov 22.

Musculoskeletal pain is prevalent among recreational runners who are about to compete: an observational study of 1049 runners. (5 recreational races in Sao Paolo, Brazil)

20% of men and 27% of women recreational runners were in pain at the start of a race they were about to run.

Journal of Physiotherapy. 2011;57(3):179-82. doi: 10.1016/S1836-9553(11)70039-Lopes AD1, Costa LO, Saragiotto BT, Yamato TP, Adami F, Verhagen E.

Shoulder injuries attributed to resistance training: a brief review.

- 36% of RT-related injuries are at the shoulder complex
- Due to imbalances and poor technique
- Strength and mobility imbalances as a result of training

J Strength Cond Res. 2010 Jun;24(6):1696-704. doi: 10.1519/JSC.0b013e3181dc4330.

[Kolber MJ1, Beekhuizen KS, Cheng MS, Hellman MA.](#)

Prevalence of injuries among young adults in sport centers: relation to the type and pattern of activity.

- Injury rates for young adults 20-35 at a recreational facility
- 190 of the 457 people (41%) got injured in a 12-month period

Scand J Med Sci Sports. 2009 Dec;19(6):828-33. doi: 10.1111/j.1600-0838.2008.00854.x. Epub 2009 Aug 6.

[Lubetzky-Vilnai A1, Carmeli E, Katz-Leurer M.](#)

Shoulder joint and muscle characteristics among healthy female recreational weight training participants.

- Women btw 18-55 who weight trained had more issues with shoulder dysfunction than those who didn't work out
- <AROM >PCT >GHJL
- Mobility imbalances related to training

J Strength Cond Res. 2011 Jan;25(1):231-41. d [Kolber MJ1, Corrao M.](#)

A Culture of Extremes



**Please be nice to me.
I've had a bad week.**

Monday AM

- **Monday – Cardio Dance**
 - 55 min
 - No warm-up
 - High impact, high intensity aerobics
 - A “toning section” = 300-400 squats
 - 180 bpm
 - Zero modifications
 - 3 min cool down

Tuesday AM was Worse What The Website Said...

- **CLASS STRUCTURE**
- -10-15 minute dynamic and progressively challenging warm-ups -
- -Consistent transitions from explosive to non-explosive exercises combined with resistance and velocity training techniques -
- -Active recovery periods to keep heart rate up for maximum caloric burn and fat loss
- -5-10 minute stretch and cool down - The Breakdown Team Chant – Leave energized. Leave inspired. Leave accomplished.

What Actually Happened

- -10-15 minute dynamic and progressively challenging warm-ups - **NOPE**
- -Consistent transitions from explosive to non-explosive exercises combined with resistance and velocity training techniques - **NOPE**
- -Active recovery periods to keep heart rate up for maximum caloric burn and fat loss – **NOPE & YEP**
- -5-10 minute stretch and cool down – **AKA SPRINTING?**
- - The Breakdown Team Chant – Leave energized. Leave inspired. Leave accomplished. **GREAT**

What Actually Happened

- No warm-up
- Hundreds of burpees and push-ups
- Zero recovery
- Zero modifications
- ZERO CONCERN FOR MOVEMENT QUALITY!

Tuesday PM was Better...

- Tuesday PM – “Spinning Class”:
- **Warm-Up:** Pedaling with light resistance high RPMs
- **Workout:**
 - Intervals in and out of “the saddle”
 - “Push-ups” against the handle bars
 - An arm “toning” sequence with 2 lb. weight: bicep curls, tricep kickbacks, overhead press, french press and alternating punches
- **Cool Down:**
 - Pedaling with light resistance and high RPMs
 - Awkward static stretching while sitting on the bike.

Common Themes

- Starts at a high intensity and stays there
- Zero program design
- Few to no modifications
- Go hard or go home
- Dark rooms with mood lighting
- Lots of yelling/talking
- Camaraderie and connection
- Aspirational instructors (shredded)

Where Are The Leaders?

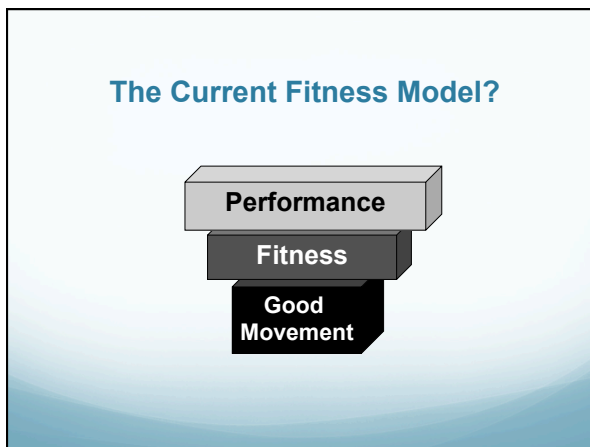


How To Turn It Around?



What Do We Measure?

Health & Fitness Metrics	Performance Metrics
<ul style="list-style-type: none">• Height• Weight• Heart rate• Blood pressure• Body Composition• VO2 Max• Flexibility• Strength• Endurance	<ul style="list-style-type: none">• Speed• Power• Agility• Quickness• Reaction



What We Know About Human Movement

- The body will always sacrifice quality for quantity.
- Inefficient movements cause compensations which move a joint in an unnatural manner.
- Compensatory movements leave to micro-trauma which can lead to overuse injuries.



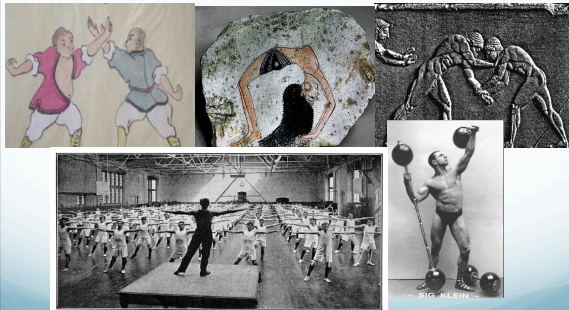
“Don’ t Put Fitness On Top Of Dysfunction”

“First move well, then move often”

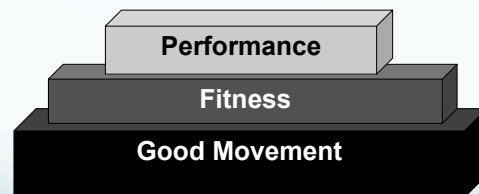
“More isn’t better, better is better”

– Gray Cook

Did Our Forefathers Have It Right?



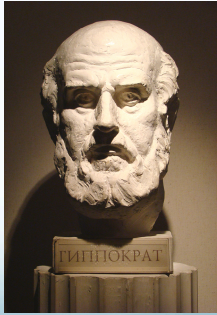
The Functional Performance Pyramid






Our Clients Deserve A Minimum Standard of Care

To Do Good or Do No Harm!



How Are We Getting a “Movement Baseline”?

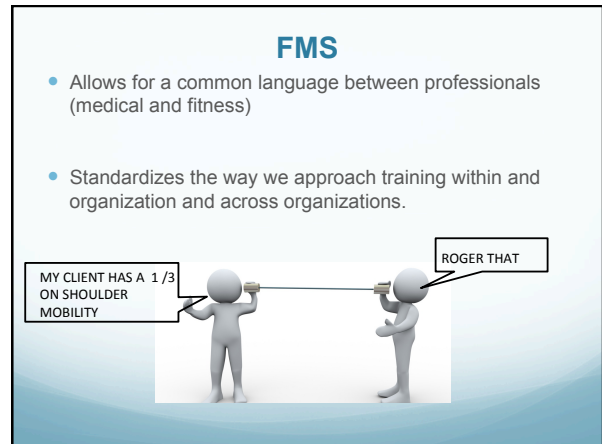
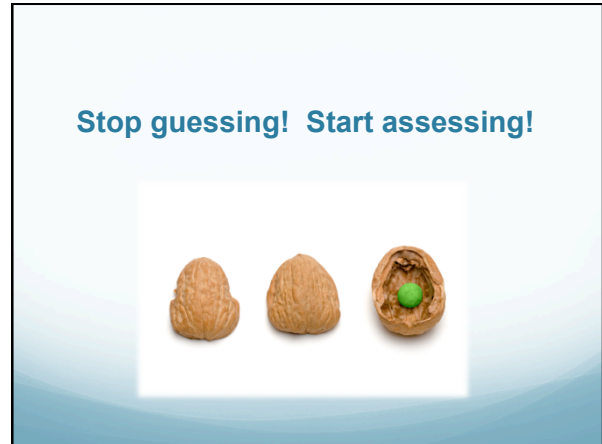
- Guessing
- Trial and error
- Exercise history

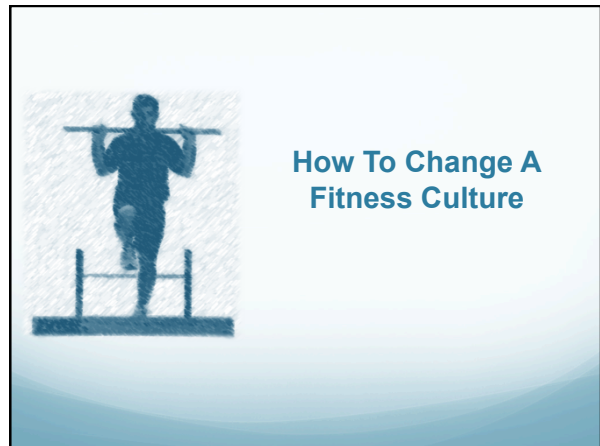
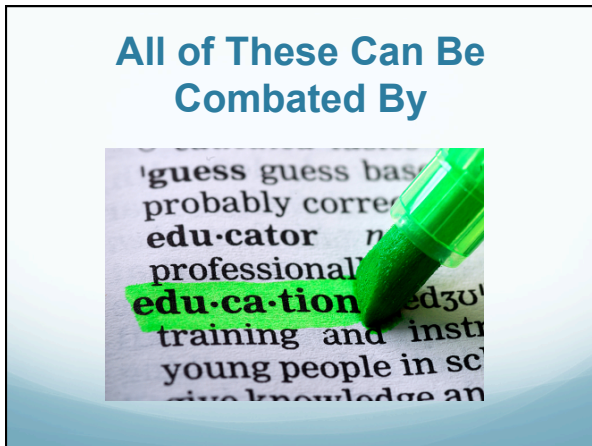
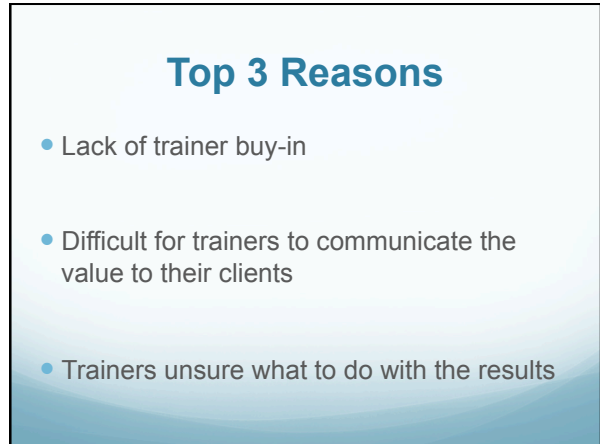


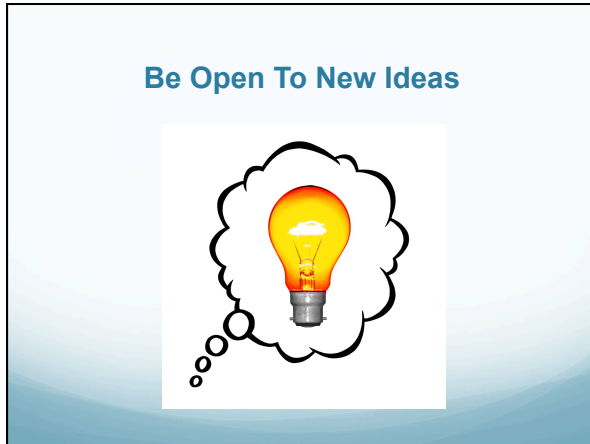
- Or an SOP for a minimum acceptable standard for movement

Do I Expect An Elderly Person to Have Good Mobility?










All truth passes through three stages.

First, it is ridiculed.

Second, it is violently opposed.

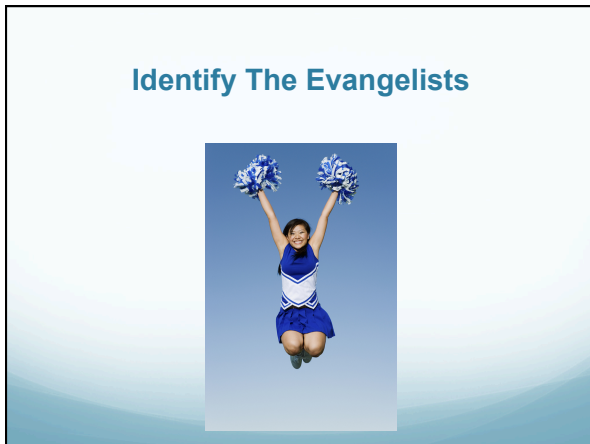
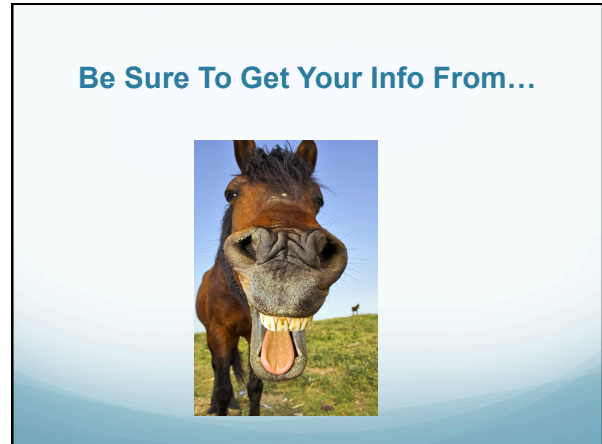
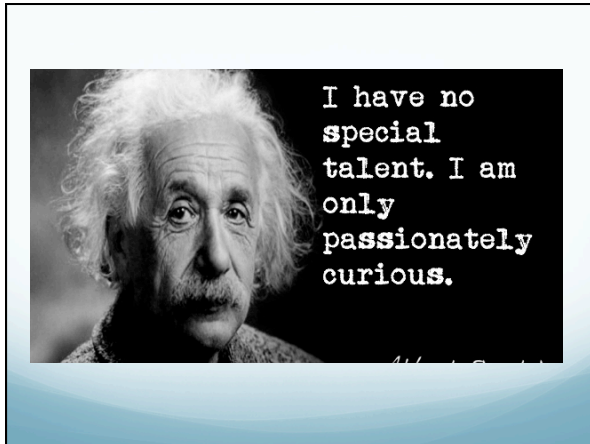
Third, it is accepted as being self-evident.



-Arthur Schopenhauer



- Be Passionately Curious.
- Create an educational culture where EVERYONE is open to making changes.
- Remove the dark secrecy of program design.
- It's okay not to have all the answers but not alright to not be out there looking for them.



- Lead by example.
- Start with the natural leaders.
- Sell it to management.
- Inform but don't force feed.
- Educate, educate, educate.

Practice, Practice, Practice



- Overlearn it!
- Share your journey.
- Be your own guinea pig.
- Empower folks to work with the tools they have (more about this later).
- Don't expect perfection.
- Make it okay to "screw up".

Set an SOP and Keep It Going



- Elevate your leaders.
- Educate all non-training staff for a team approach.
- Educate, educate, educate
- Be open to making changes.

Keep It Top of Mind

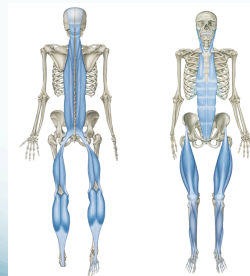
- Weekly education
 - Staff Meetings
 - Websites/Forums
 - Articles
 - Podcasts
- Quarterly seminars
- Annual conferences
- Make it fun



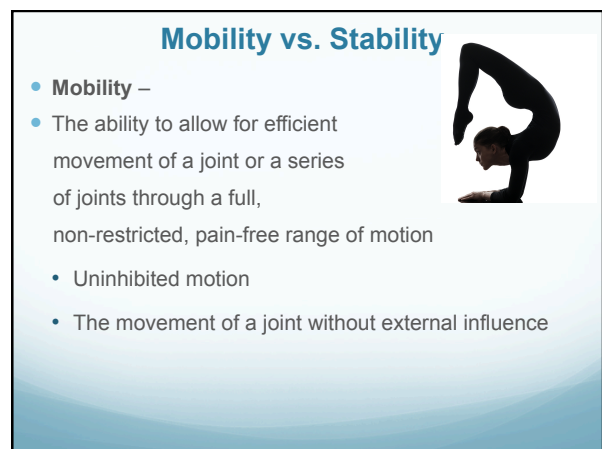
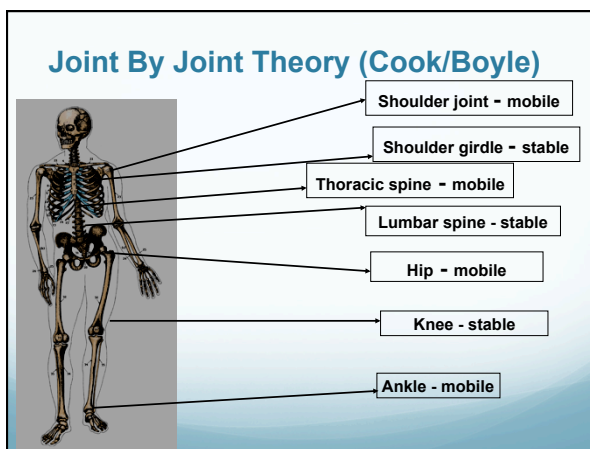
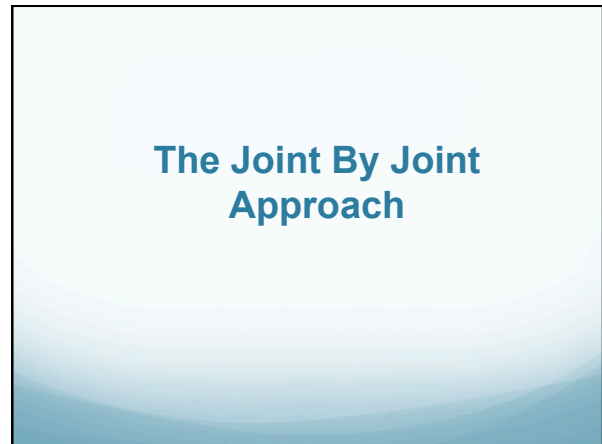
What to Teach Them

Anatomy Trains


Does The Body EVER Work In Isolation?




With Kind Permission of Anatomy Trains




Mobility vs. Stability

- Stability** – active muscular control exerted on a joint to redirect force and control movement in the presence of normal muscular flexibility and joint mobility
 
- The ability to maintain posture and/or control motion in the presence of change

Which One of These Clients Has A MOBILITY Problem?




Are You Sure?



The “Bad Neighbor” Theory

- Where you find pain – look to the joint above or below.”
-Gray Cook



The Bad Neighbor Theory

- The pain site is rarely the pain source.
- Injuries/pain happen when stable joints become mobile or when mobile joints become stable

The Original Movement Road Map

Ask The “Experts”

How Does The Body Learn to Move?



Postural Control – 3 Levels



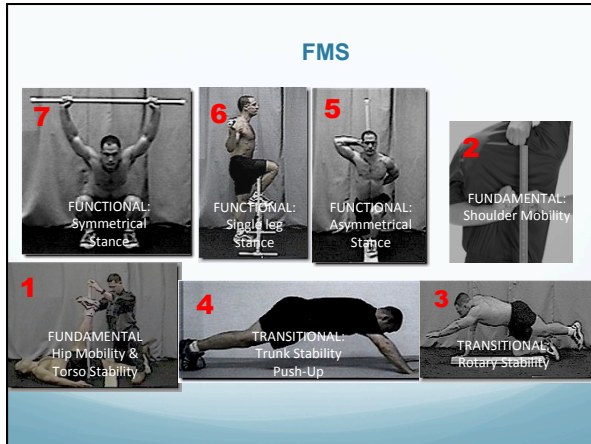
Fundamental:
supine, prone, rolling



Transitional: on elbows, quadruped, tall kneeling and half-kneeling



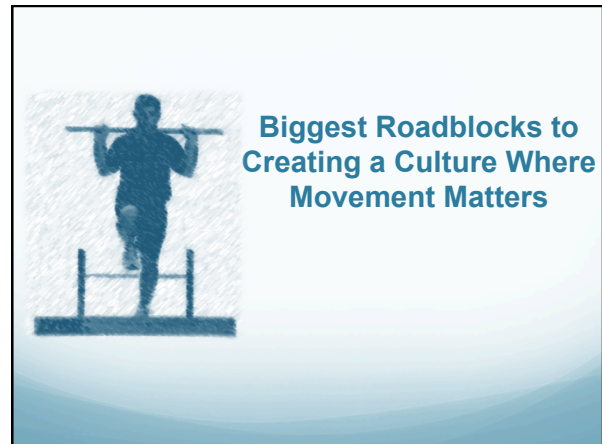
Functional: standing symmetrical stance, asymmetrical stance, single-leg stance



4 x 4 Matrix For Stability Progressions (Greg Rose)

	POSITION	LOAD LEVEL
Functional	1) Supine/Prone	1) No Resistance/Pattern Assistance
Transitional	2) Quadruped	2) No Resistance
Functional	3) Tall and 1/2 Kneeling	3) Resistance/Pattern Assistance
Functional	4) Standing	4) Resistance

Note: Red arrows in the original image point from (1) Supine/Prone to (1) No Resistance/Pattern Assistance, (2) Quadruped, (3) Resistance/Pattern Assistance, and (4) Resistance. Blue arrows point from (2) Quadruped to (3) Resistance/Pattern Assistance and (4) Resistance.



Common Misconceptions

1. FMS IS PHYSICAL THERAPY

"My clients come to me for a hard workout, I can't be doing all this rehab stuff with them for the whole hour"

Common Misconceptions

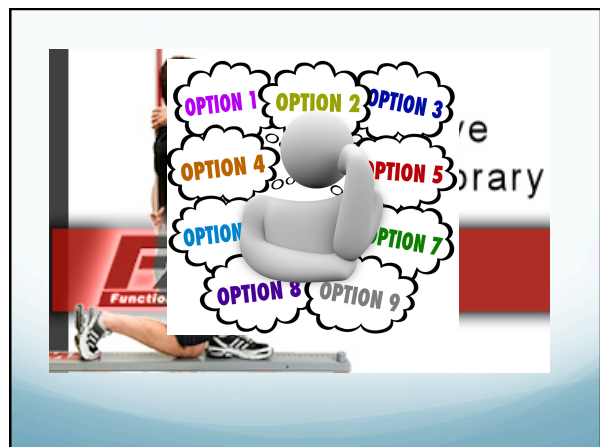
2. DOING WELL ON THE SCREEN IS THE GOAL OF FMS.

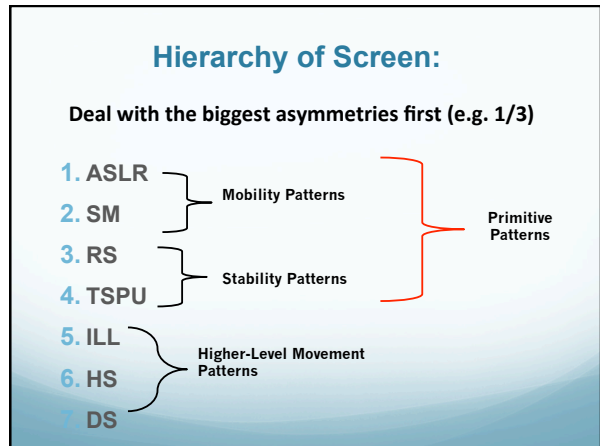
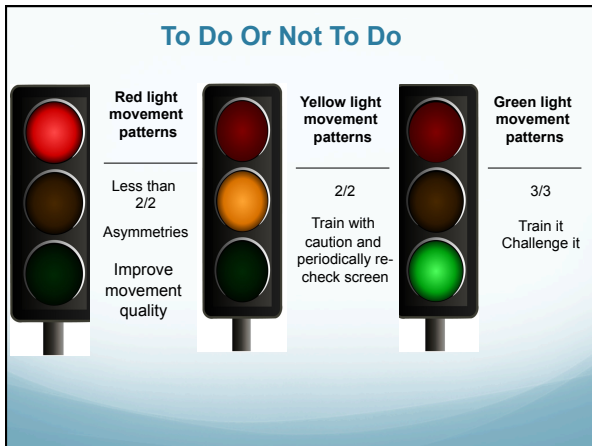
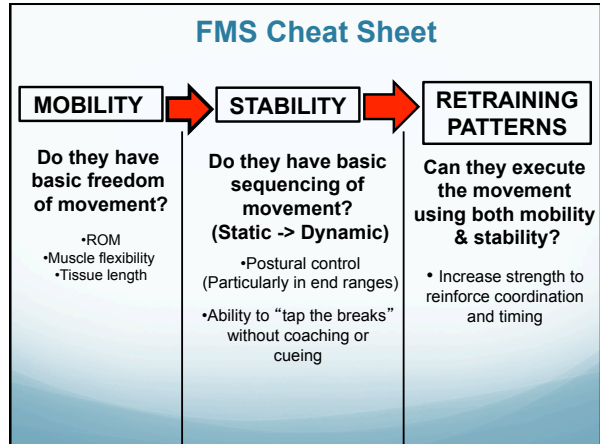
"My goal is to get all of my clients to a 21. I want all of them to be able to totally rock the screen"

Common Misconceptions

3. THERE ARE SPECIFIC FMS EXERCISES WHICH MUST BE USED WITH THE SCREEN

"I haven't memorized all the correctives and I'm afraid I'll do the wrong thing so I haven't done much with the screen so far"





Corrective Exercises

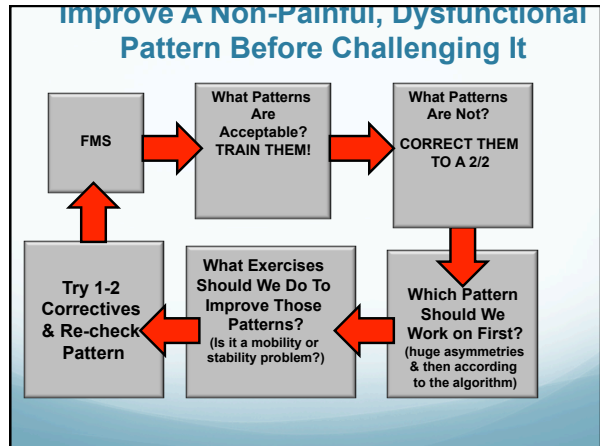
- What is prescribed:
 - Stretches
 - Exercises
 - Movement Pattern Drills
- Focus on one movement pattern at a time
- Corrective programs can be warm-ups, cool-downs, part of supersets. **Not supposed to replace a workout -- complement the existing program**
- Re-test often to check for progress (weekly or bi-weekly)

Prioritizing The Patterns


- **Priority 1: A ZERO - refer out for that pattern, don't train that pattern**
- **Priority 2: Asymmetries involving a 1 – partner with an appropriate medical professional: doctor, physical therapist, massage therapist - defer to the medical professional as to if/how/when you should train that pattern**
- **Priority 3: Bilateral 1s**




Prioritizing The Patterns

- **Priority 4: Asymmetries involving a 2**
- **Priority 5: Bilateral 2s**
- **Priority 6: When in doubt go for ASLR or SM (ASLR before SM if equally limited)**
- **Priority 7: Primitive patterns RS before TSPU**



Postural Control – 3 Levels



	Fundamental: supine, prone, rolling
	Transitional: on elbows, quadruped, tall kneeling and half-kneeling
	Functional: standing (symmetrical stance, asymmetrical stance, single-leg stance)

Best Practices

- *Movement* by Gray Cook et. Al.
- Website (Functionalmovement.com)
- Having staff attend FMS Certs/Conferences
- In-house workshops lead by staff
- **Peer-to-peer in-house coaching**


Additional Resources

- *Anatomy Trains*, Thomas Myers
- *Movement*, Gray Cook
- *Training = Rehab, Rehab = Training*, Charlie Weingroff
- The Strength Coach Podcast (iTunes)
- Functionalmovement.com
- Movementbook.com
- GrayCook.com
- Strengthcoach.com
- Anything by Greg Rose (myTPI.com)

Thank You!



Questions?



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