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# How to Develop Agile Strength

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# OBJECTIVES

- Define and analyze the various forms of strength
- Provide a unique POV for Agile Strength training
- Introduce IoM's 4Q programming model, providing guidance and structure on how to enhance Agile Strength
- Present & have attendees experience an Agile Strength training program

# STRENGTH

Muscular

vs.

Movement



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BioTensegrity (BT)

Musculo-Skeletal System (MSS)

Neuro -Musculo-Skeletal System (NMS)

MyoFascial Web (MFW)

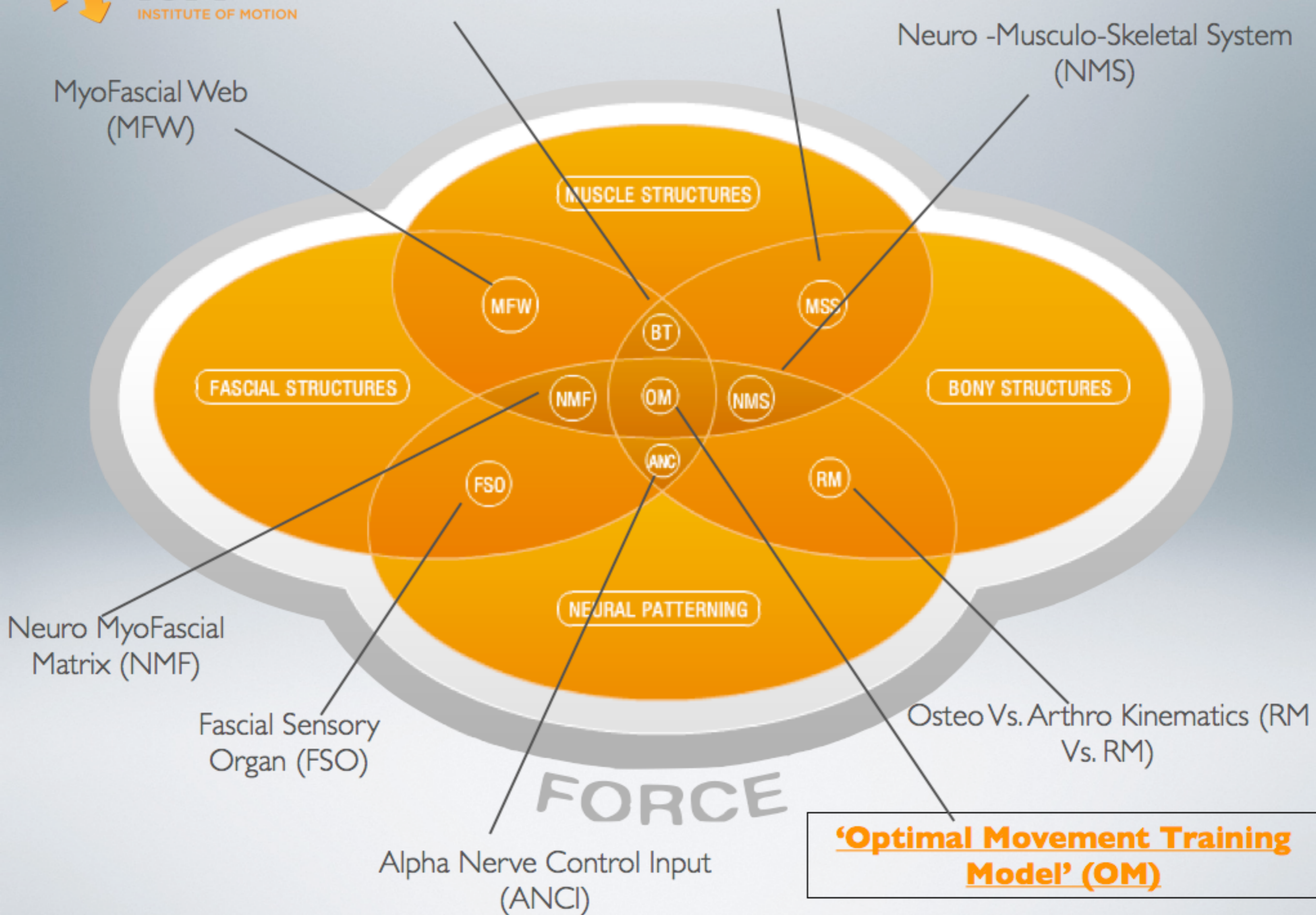
Neuro MyoFascial Matrix (NMF)

Fascial Sensory Organ (FSO)

Alpha Nerve Control Input (ANCI)

Osteo Vs. Arthro Kinematics (RM Vs. RM)

**'Optimal Movement Training Model' (OM)**



# RATIONALE

- We must be able to produce and transmit force in an integrated fashion
  - The neuromyofascial system responds better to variation than to repetition
- Whole body, “complex” movement is critical to systemic adaptation
  - Vector variable & proprioceptively rich exercise is extremely beneficial to the neuromyofascial system
- Loaded Movement Training allow muscles to turn on AND off
  - Efficiency, preparedness and capacity



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# ADAPTABILITY

- Wolff's Law:
  - Skeletal structure is organized/reorganized according to the applied lines of stress



# ADAPTABILITY

- Davis' Law:
  - Soft tissue (contractile & connective) is organized/reorganized according to the applied lines of stress



# ADAPTABILITY

- Movement Skill
- Motor learning, development & ability adapt according to the applied stress



# ADAPTABILITY

## Specific Adaptation to Imposed Demands (S.A.I.D)

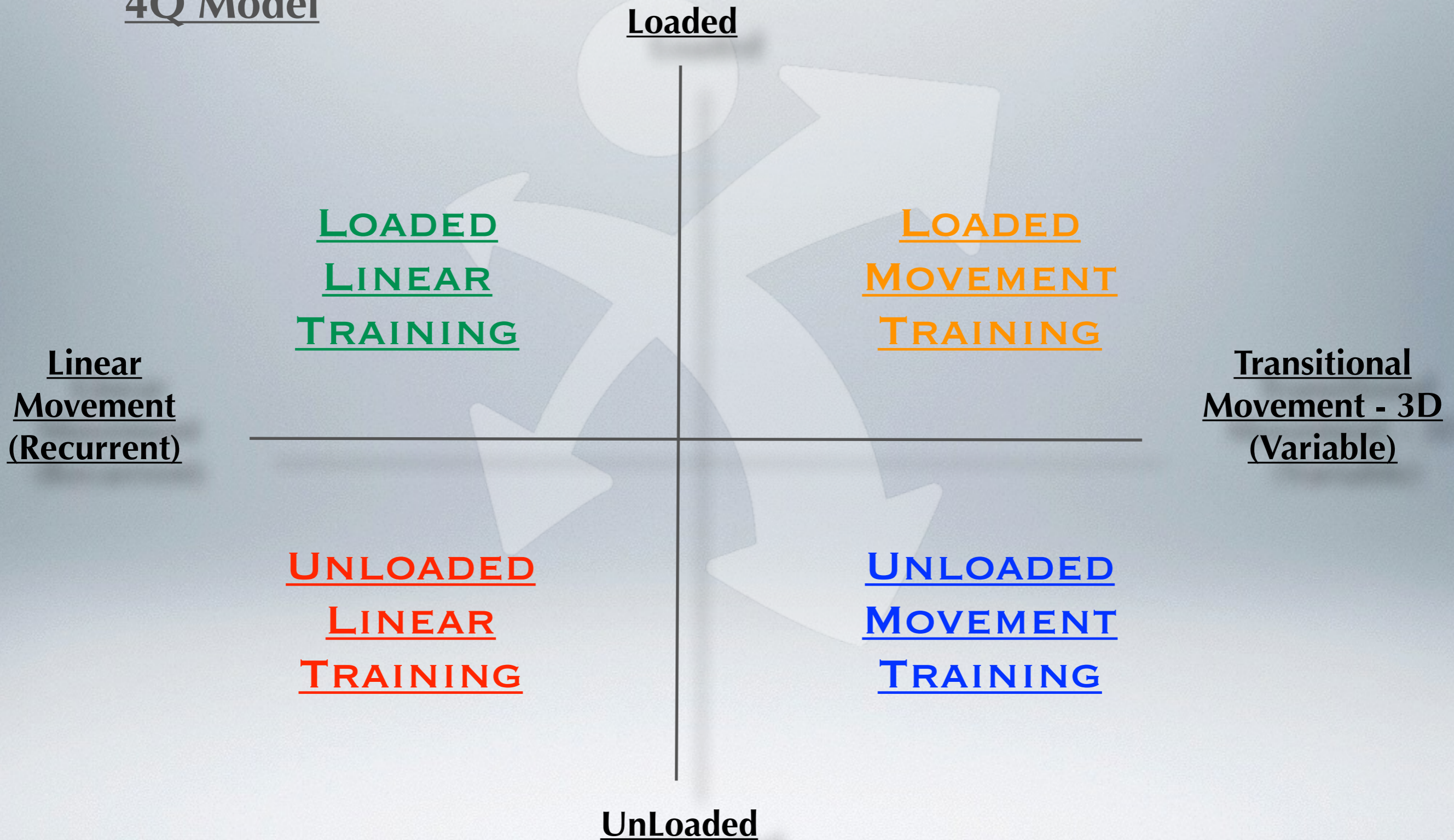
- Specificity Paradox
- The movement demands of sport & life are, specifically, variable...

# ADAPTABILITY

## Specific Adaptation to Imposed Demands (S.A.I.D)

- Required Outcome / “Specific Adaptation”:
  - Strong, powerful, skilled and safe movement in variable, reactive directions through a solid & robust architecture from non-traditional positions
- Needs Analysis / “Imposed Demand”:
  - Training strategy that applies balanced variability (direction, speed & force)

# 4Q Model



# 4Q Model

Loaded

## LOADED LINEAR TRAINING

BENCH PRESS  
DEADLIFT  
HANG CLEAN  
BICEP CURL  
CYCLING / ROWING  
ETC.

## LOADED MOVEMENT TRAINING



Warding Patterns

Linear  
Movement  
(Recurrent)

Transitional  
Movement - 3D  
(Variable)

## UNLOADED LINEAR TRAINING

SKILL DEVELOPMENT TRAINING  
WEAK LINK ACTIVATION  
THERAPEUTIC REHAB  
RUNNING / SWIMMING ETC.  
RESTFUL POSES

## UNLOADED MOVEMENT TRAINING

SAQ TRAINING  
INTERACTIVE MOVEMENT  
FUNCTIONAL REHAB  
TAI CHI  
GROUND TO STANDING DRILLS  
DOWEL ROD MOVEMENT PREP

UnLoaded



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# IoM Program Design

**Loaded**

## **LOADED LINEAR** **TRAINING**

Benefits include:

- Greater muscle Hypertrophy
  - Time under tension
  - Increase hormonal release
- Improvement in Stability / Strength / Power
  - Improved intra-muscular coordination

**Linear**  
**Movement**  
**/ Recurrent**

## Linear Movement / Recurrent

### UNLOADED LINEAR TRAINING

Benefits include:

- Re-education of neuro-muscular system
  - Stability / Mobility training
  - Weak Link Activation
- Targeted tissue improvement (i.e. muscle)
  - Improved intra-muscular coordination
  - Cardio and motor efficiency
  - Metabolic improvement

Transitional  
Movement - 3D /  
Variable

## UNLOADED MOVEMENT TRAINING

Benefits include:

- Rapid NS activation
- Mostability training
- Improved Motor learning
- Speed, agility, quickness improvements
- Increase functional reaction capabilities

UnLoaded

## Loaded

### LOADED MOVEMENT TRAINING







Benefits include:

- Greater adaptations in muscle, nerve, skin, fascia
  - Less compressive forces
  - Increased hormonal release
- Improvement in multi-directional Stability / Strength / Power
  - Improved inter-muscular coordination
  - Whole body integration




Transitional  
Movement - 3D /  
Variable



## 10M EXERCISE DESIGN AT A GLANCE

 ORIENTATION	 ACTION	 DEVICE	 FOOTPRINT	 HANDPRINT	 THRESHOLD
<p>In which way will you orient your body to gravity / ground?</p>	<p>What gross movement is occurring in the body?</p>	<p>What external load are you choosing and why?</p>	<p>Foot position (stance) and / or foot movements while performing the exercise?</p>	<p>Hand position and / or hand movements while performing the exercise?</p>	<p>Acute variable manipulation (i.e. sets, reps, weight, ROM, speed etc.)</p>



ACUTE VARIABLE	Threshold 1	Threshold 2	Threshold 3	
				
	SPEED	Slow	Medium	Fast
	MOVEMENT	Known	Somewhat known	Unknown
	STABILITY	Stable	Moderately dynamic	Dynamic
	FORCE (WEIGHT)	Low	Moderate	High
	COMPLEXITY	Simple	Moderate	Complex
	SURFACE	Stable	Changing	Dynamic
	BASE OF SUPPORT	Wide (stable)	Narrow	Varying (movement)
	VOLUME (Sets + Reps + Intensity)	Low	Medium	High
ROM (Range of Motion)	Small (initial range)	Medium (self selected range)	Large (end range)	



# Screening

Adequate Motion Observed?



Foot / Ankle  
Complex



Hip Complex

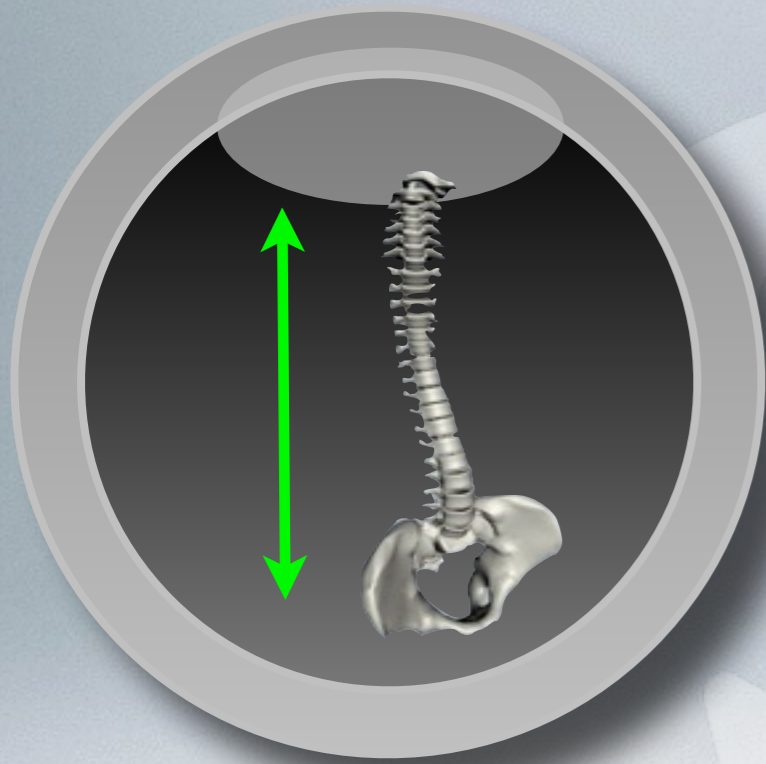


Thoracic Spine

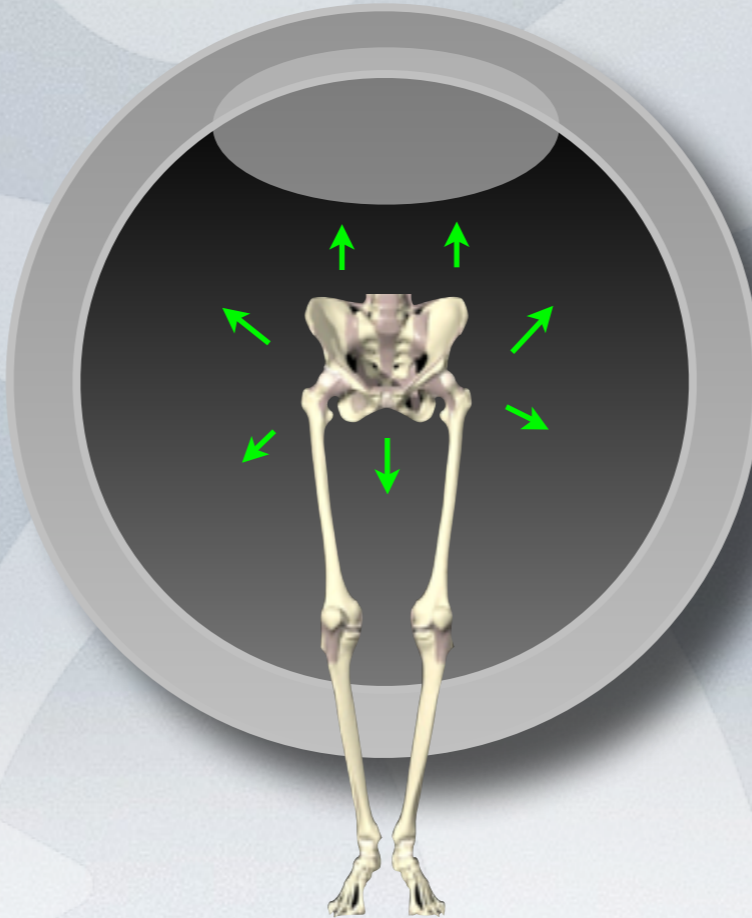


# Coaching Cues

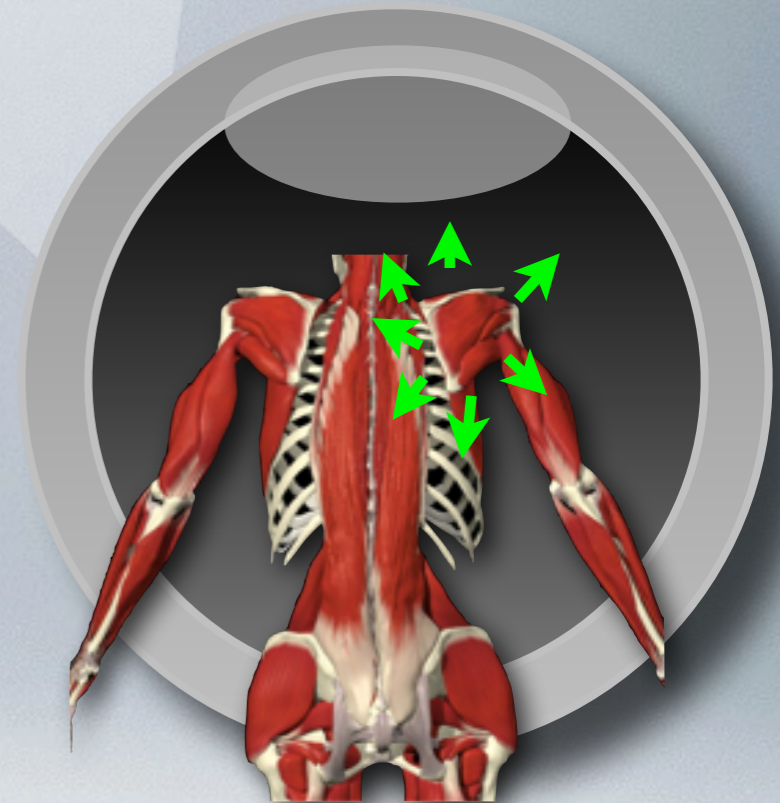
(Adapted from Chuck Wolf, MS)



1. Maintain  
Length in the  
Spine



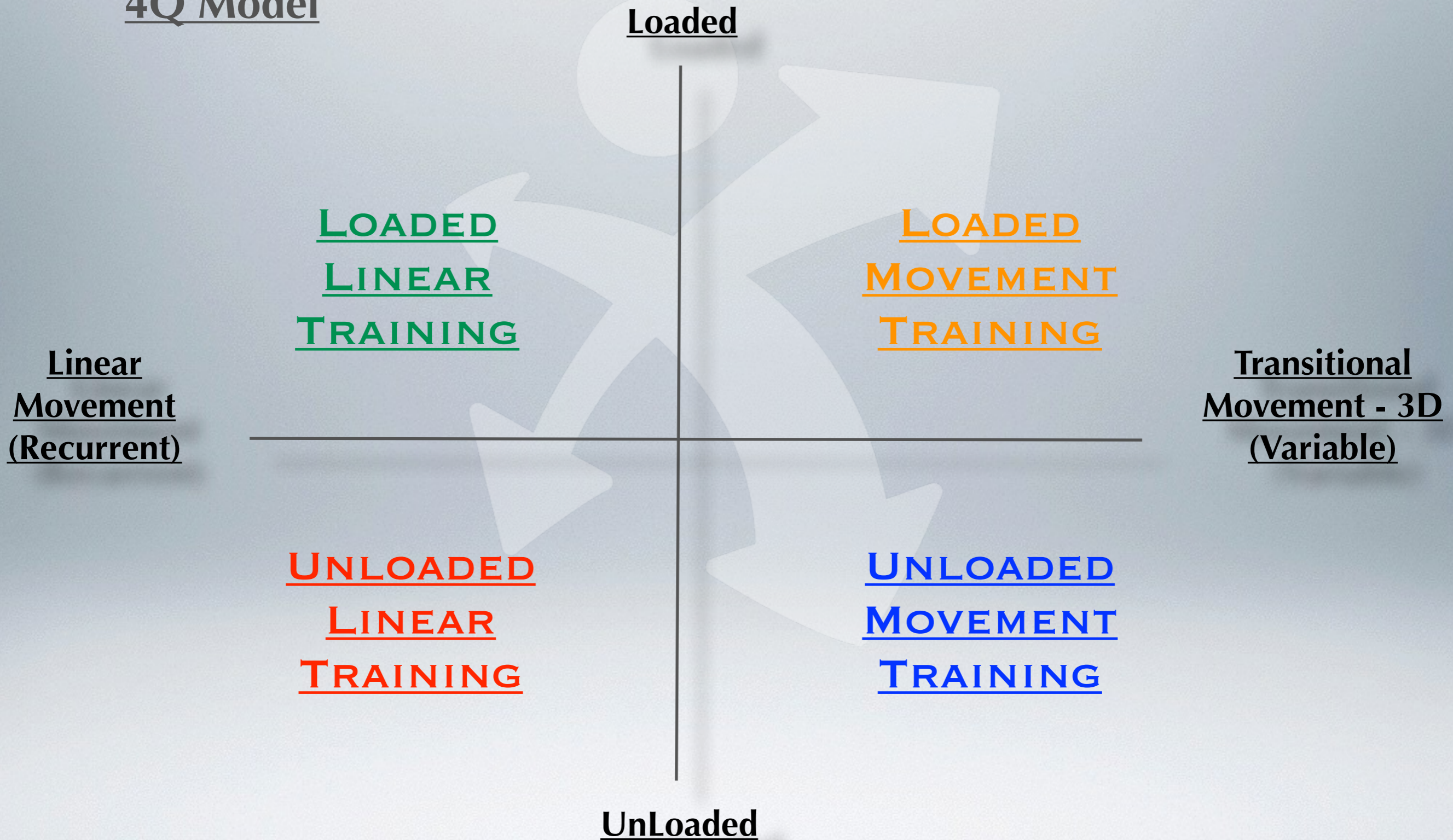
2. Initiate  
Movement with  
the Hips




3. Reach with the  
Scapula



# 4Q Model



# DEVELOPING AGILE STRENGTH

Client:		Date:				
Session Goal:		Load	Reps	Sets	Tempo	Rest
<b>Prep:</b>						
<b>Outcome-Based Training:</b>						
<b>Recovery:</b>						
<b>Notes:</b>		LLT	LMT			
		ULT	UMT			

# Thank You!!

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