



2020 NSCA COACHES CONFERENCE & LIVESTREAM



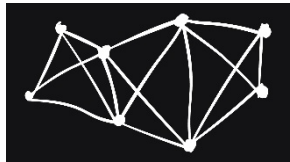
#Coaches20

CONFLICT OF INTEREST STATEMENT

I have no actual or potential conflict of interest in relation to this presentation.

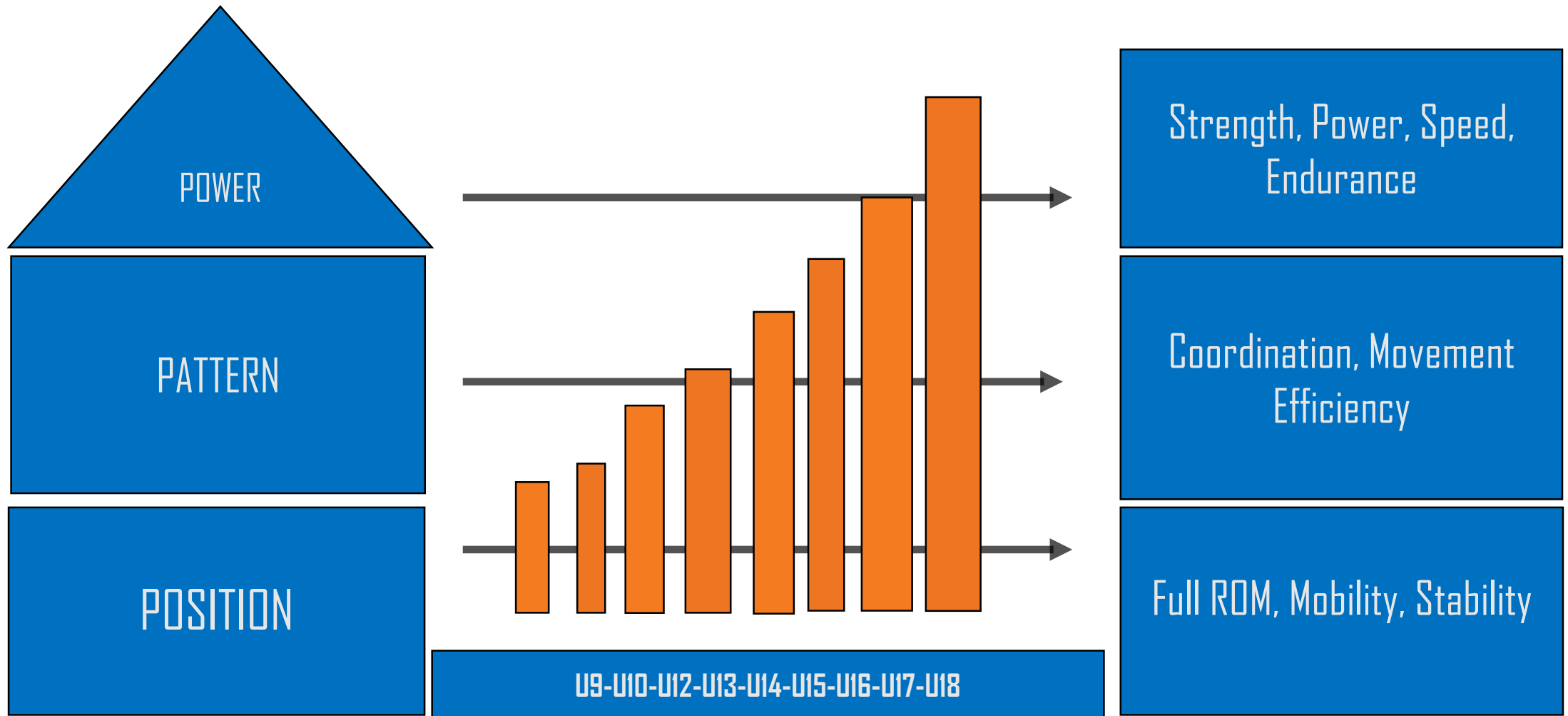
MULTILATERAL DEVELOPMENT AND SPECIALIZED TRAINING

UNDERSTANDING PLAYER AVAILABILITY

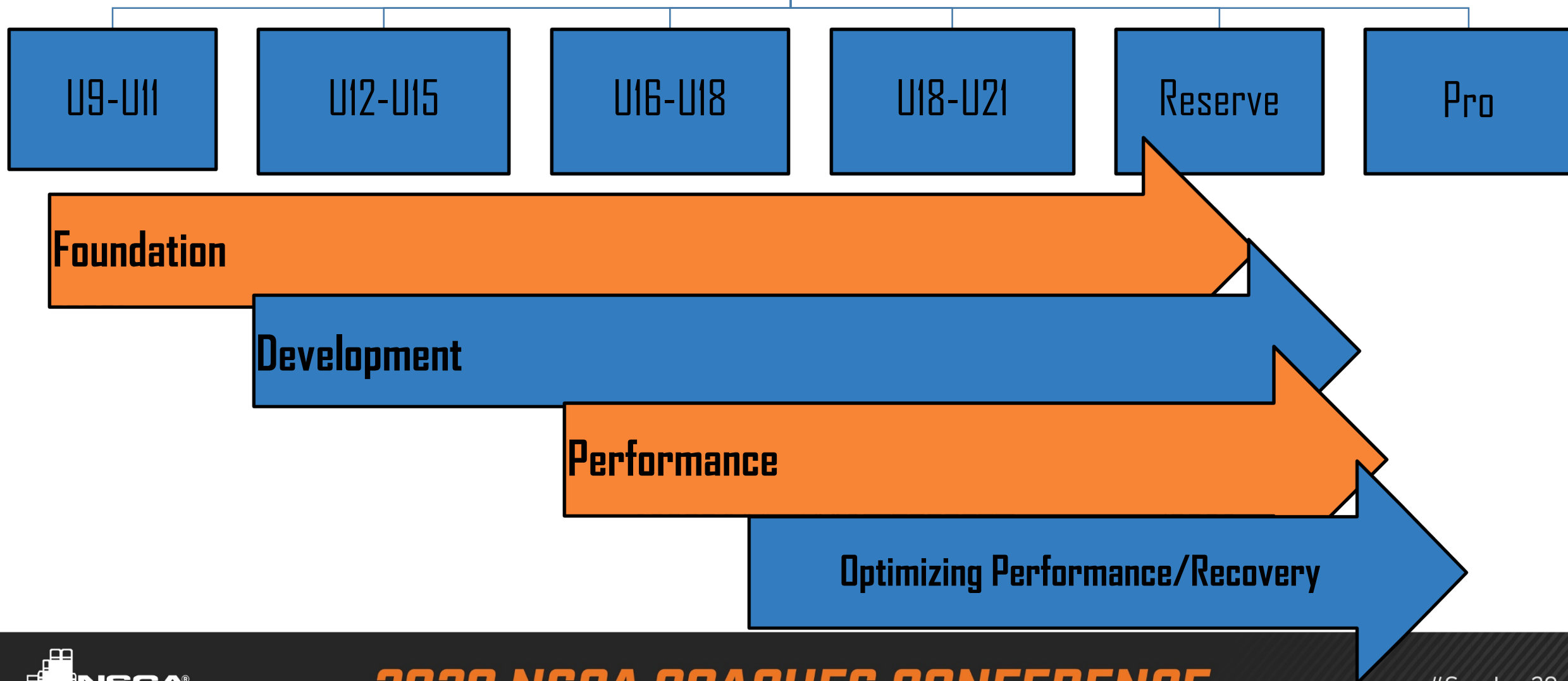


ACTION ITEMS

- *IDENTIFY THE PROCESS FOR DEVELOPING FOOTBALL PLAYERS*
 - Foundational Stage, Developmental Stage and Performance Stage
- *MANAGING PLAYER ENGAGEMENT*
 - Time, Orientation, Process
- *PHYSICAL DEMANDS OF FOOTBALL*
 - How to Keep Players Available
- *COMMON TIME LOSS INJURY*
 - THE “HOLY GRAIL” of Football



THE PROCESS



Foundational Competence

Movement Pattern Proficiency:

- Proprioception
- Mobility/Stability
- Strength Imbalances
- Check for Pain
- *Top 7 Qualities
- *Physical Literacy

Movement Standards (point system)

Development of Movement Skills

Assess-Correct-Develop

*Top 10 Qualities

Movement Skills:

- Acceleration
- Jump-Bound-Hop
- Multi-Directional Speed

*Physical Literacy

- COM control
- Locomotion
- Coordination

Performance via Integrated Conditioning

ESD: Integrated (related) to the game, Targeted Individual needs

Strength/Power:

- Strength: BW Ratios
- Jump Performance
- *Top Ten Qualities

Individual Performance Assessment (Athletic Profile)

- Load Management
- Mindset Evaluation

Optimization: Periodization

Work Load Monitoring

- Internal Load
- External Load

Player Readiness

- Jump Profile
- Landing Asymmetries (GRF)
- Dedicated Recovery



Before
Growth Spurt

During
Growth Spurt

After
Growth Spurt





Fun & Games
 Coordination
 Balance &
 Stability
Position: Low
COM
 Speed 1
 Warm Up

Aerobic 1: ESD
 Coordination
 Medicine Ball
 Plyometric Prep
 Warm Up
Suppleness: PHV
 Fun & Challenges

Aerobic 2: ESD
Strength 1
 Medicine Ball
 Speed 2
 Plyometrics
 Warm Up
 Load Management
 Testing & Evaluation



TOP 10 PHYSICAL QUALITIES

Physical Qualities	Frequency	Day Before Match
1. Reaction	+++	+
2. Acceleration	+++	+
3. Deceleration	++	X
4. Balance	+++	+
5. Coordination	+++	+
6. Power	++	X
7. Speed (Agility)	++	X
8. Endurance	+++	X
9. Flexibility	+++	+
10. Strength (Functional)	++	X



WE TRAIN AS WE PLAY!

Game Model



TD = Total Distance covered
 Z5 = High Speed Running distance (19.8-25.2 km/h)
 Z6 = Sprinting distance (>25.2 km/h)
 Acc = Accelerations (efforts)



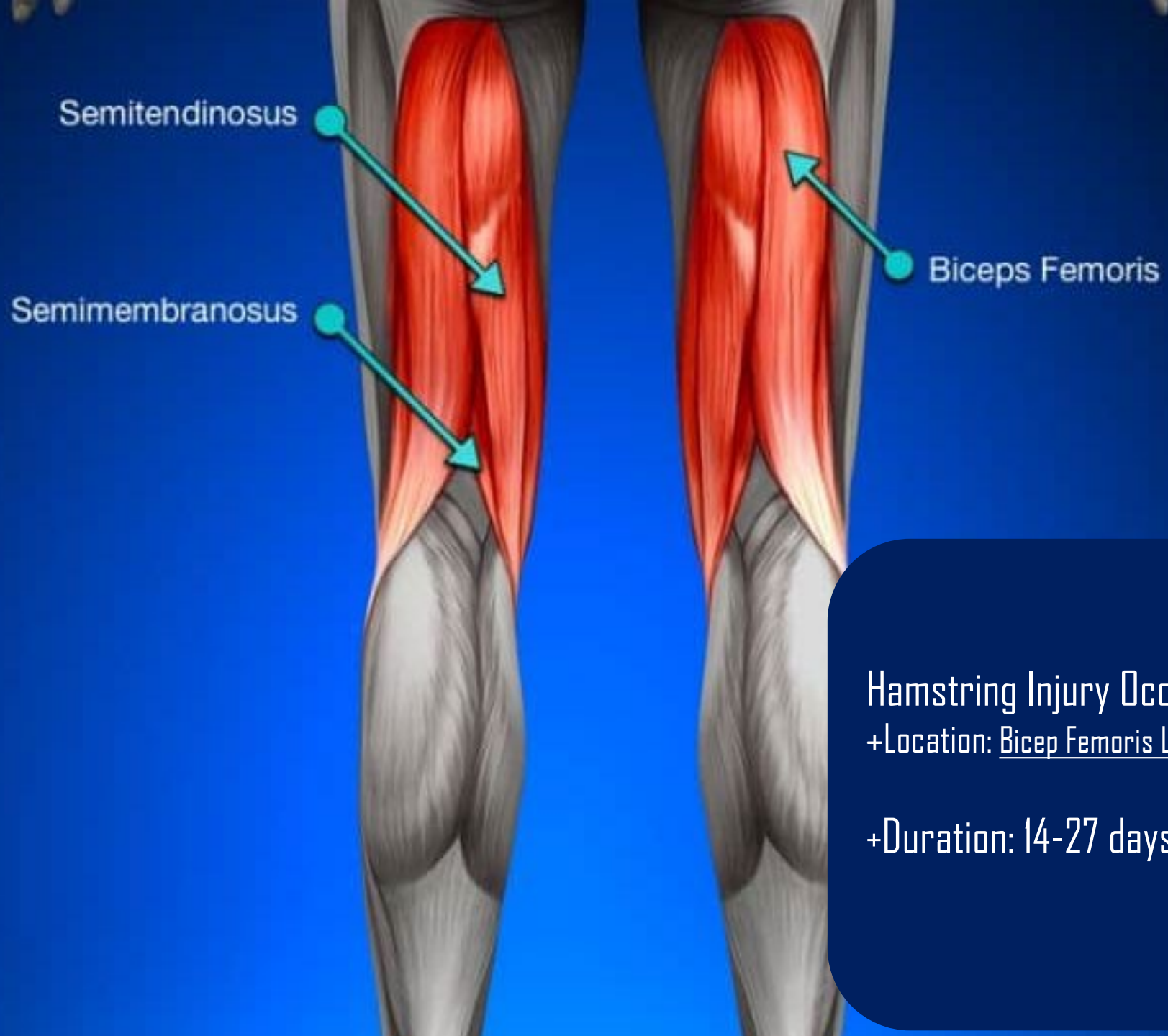
Estimating likelihood of non-contact hamstring injuries and intervening with appropriate actions on those predictions is the “holy grail” of the applied sport science.

RISK FACTORS



- ✓ Age
- ✓ Previous Injury
- ✓ Low Eccentric Strength (Opar)
- ✓ Limb Symmetry

- ✓ Hamstring: Quad Imbalance (Mixed evidence)
- ✓ Fascial Length (Opar)



Semitendinosus

Semimembranosus

Biceps Femoris

Hamstring Injury Occurrence

+Location: Bicep Femoris Long Head

+Duration: 14-27 days

Most Common Injury in Football
LARGEST cause of Loss of Playing Time (\$\$\$)

THE COST OF INJURIES IN THE 2016-17 PREMIER LEAGUE

B-R

STUDY BY
JLT SPECIALTY,
H/T THE TELEGRAPH

		NUMBER OF INJURIES	WAGES PAID TO INJURED PLAYERS
1	MANCHESTER CITY	30	£18.3M
2	MANCHESTER UTD	51	£17.8M
3	ARSENAL	51	£16.3M
4	WEST HAM UTD	50	£13.7M
5	LIVERPOOL	47	£13.7M
6	CRYSTAL PALACE	46	£12.1M
7	SUNDERLAND	58	£11.7M
8	EVERTON	29	£9M
9	SOUTHAMPTON	34	£9M
10	TOTTENHAM HOTSPUR	32	£8.5M



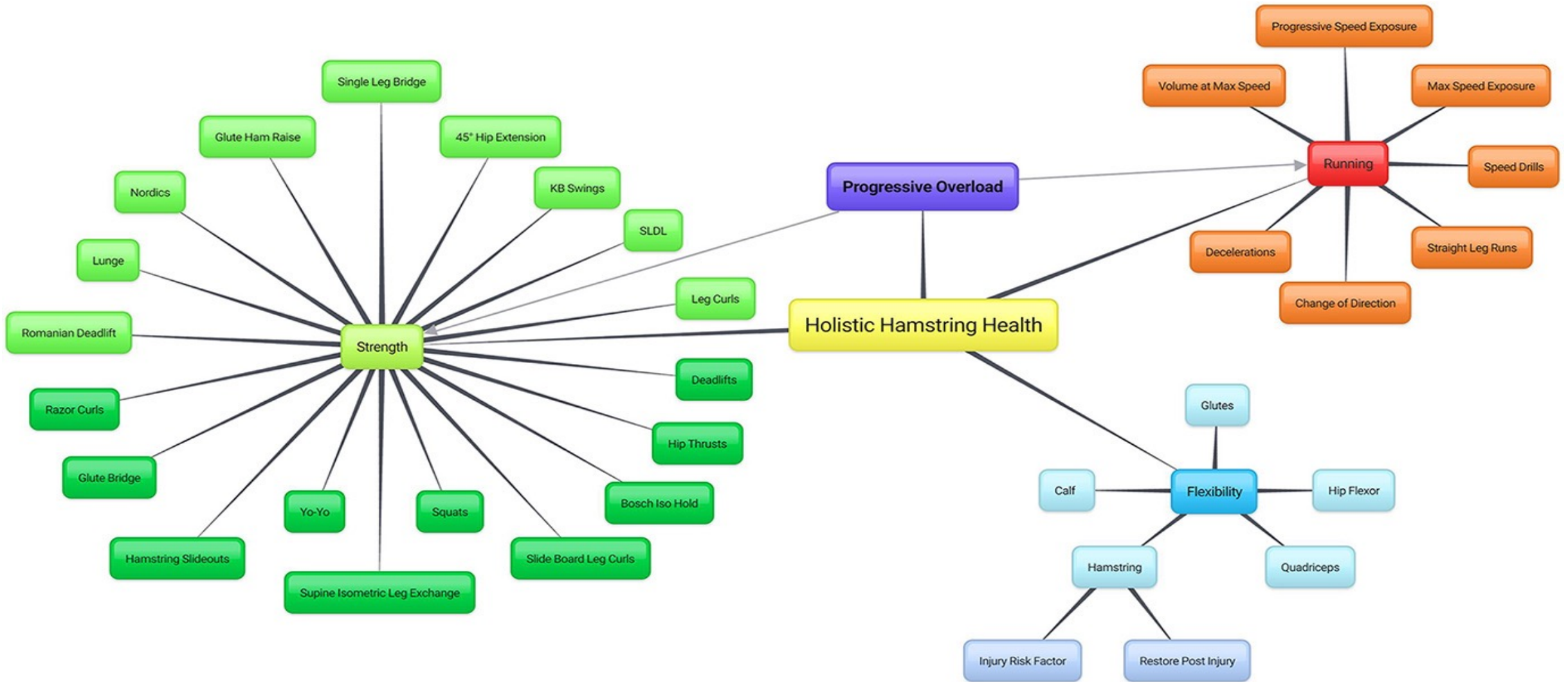
MECHANISMS OF INJURY: LATE SWING PHASE

- ✓ High Muscle Contraction (eccentric)
- ✓ HIGH FORCES through the Hamstrings
- ✓ BF undergoing greatest % of length

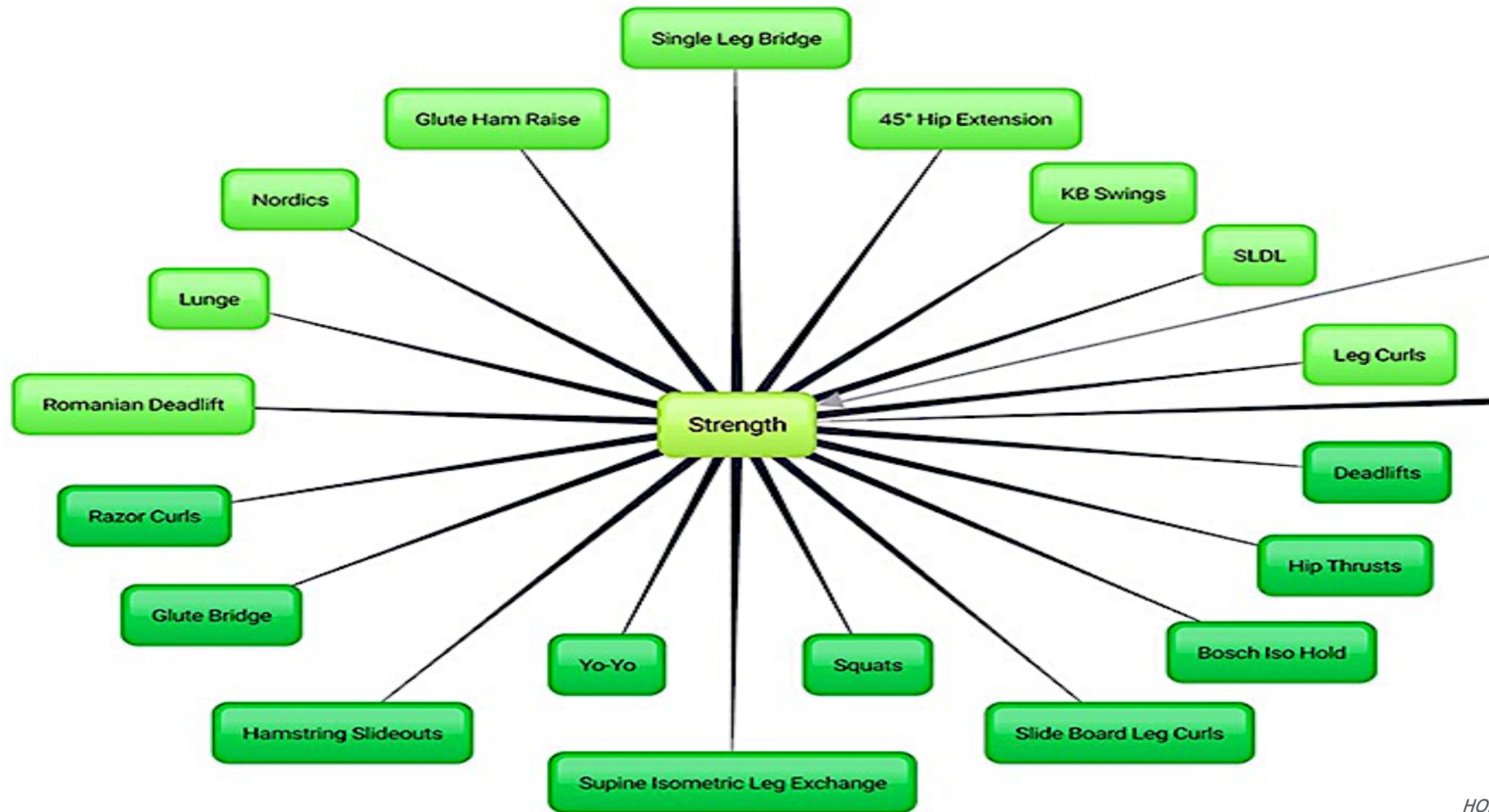


The biceps femoris and other hamstring muscles function eccentrically to resist hip flexion and decelerate knee extension. (Higashihara A, Nagano Y, Ono T, *et al.* 2015)

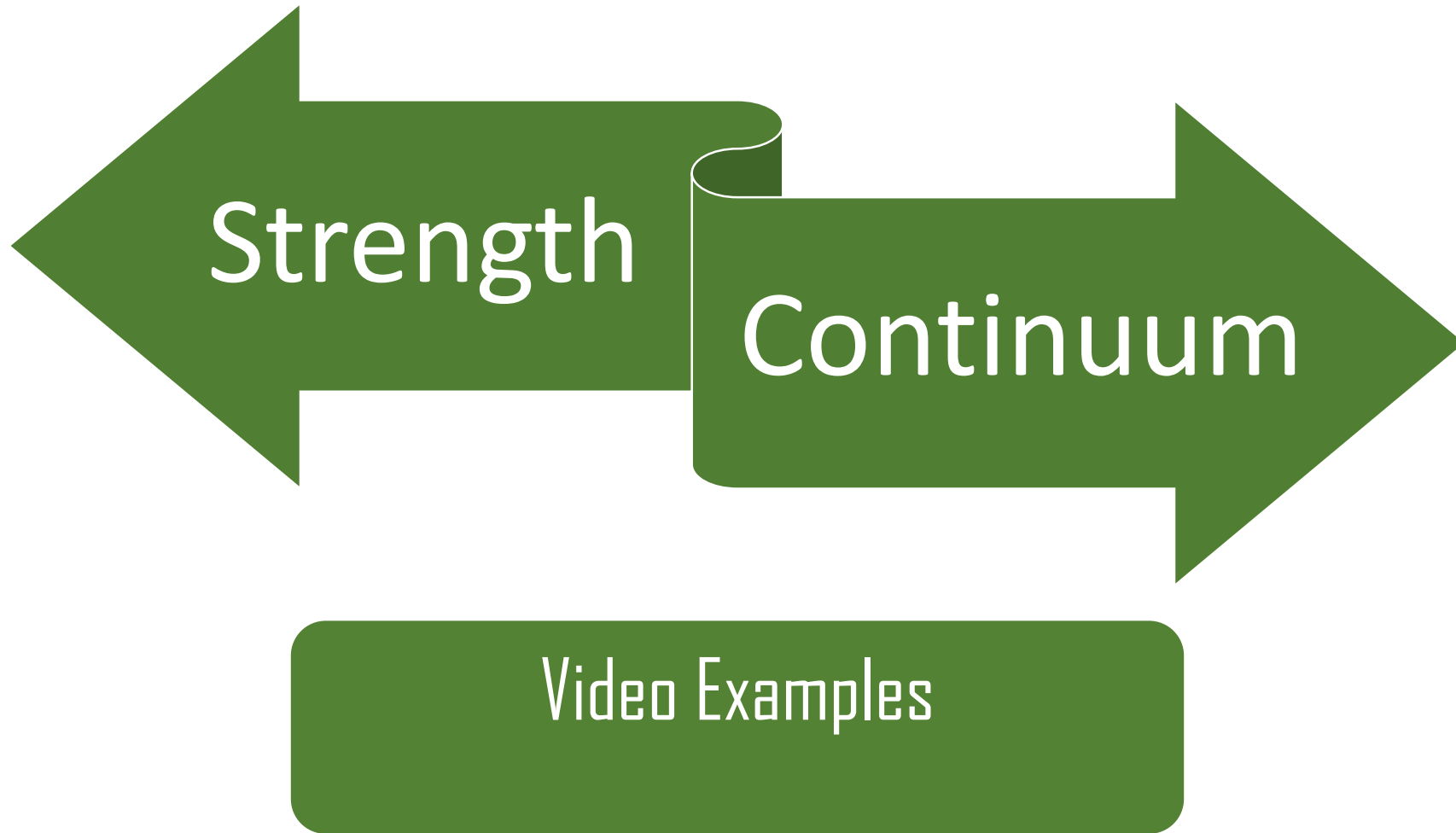
HOLISTIC HAMSTRING HEALTH: AJ OAKLEY; BMJ 2017

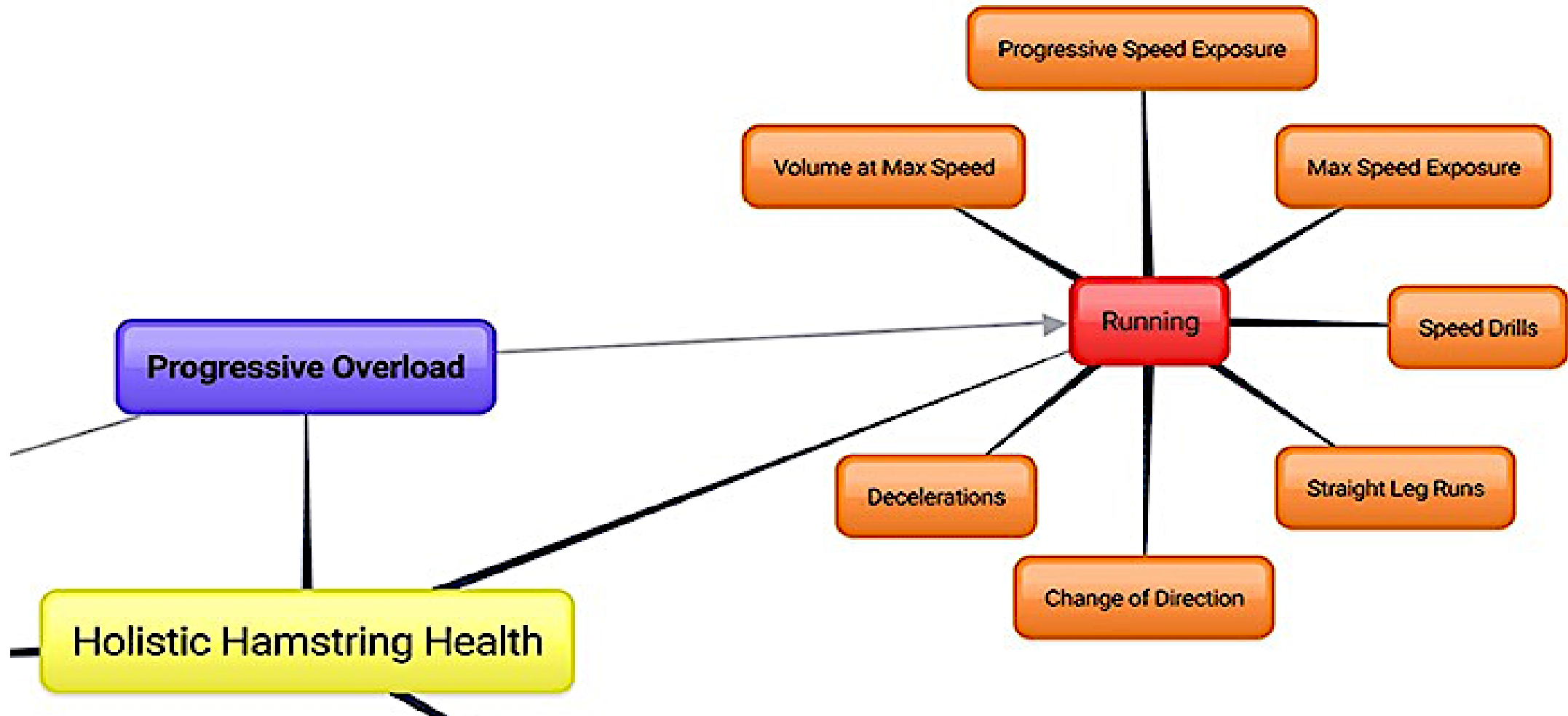


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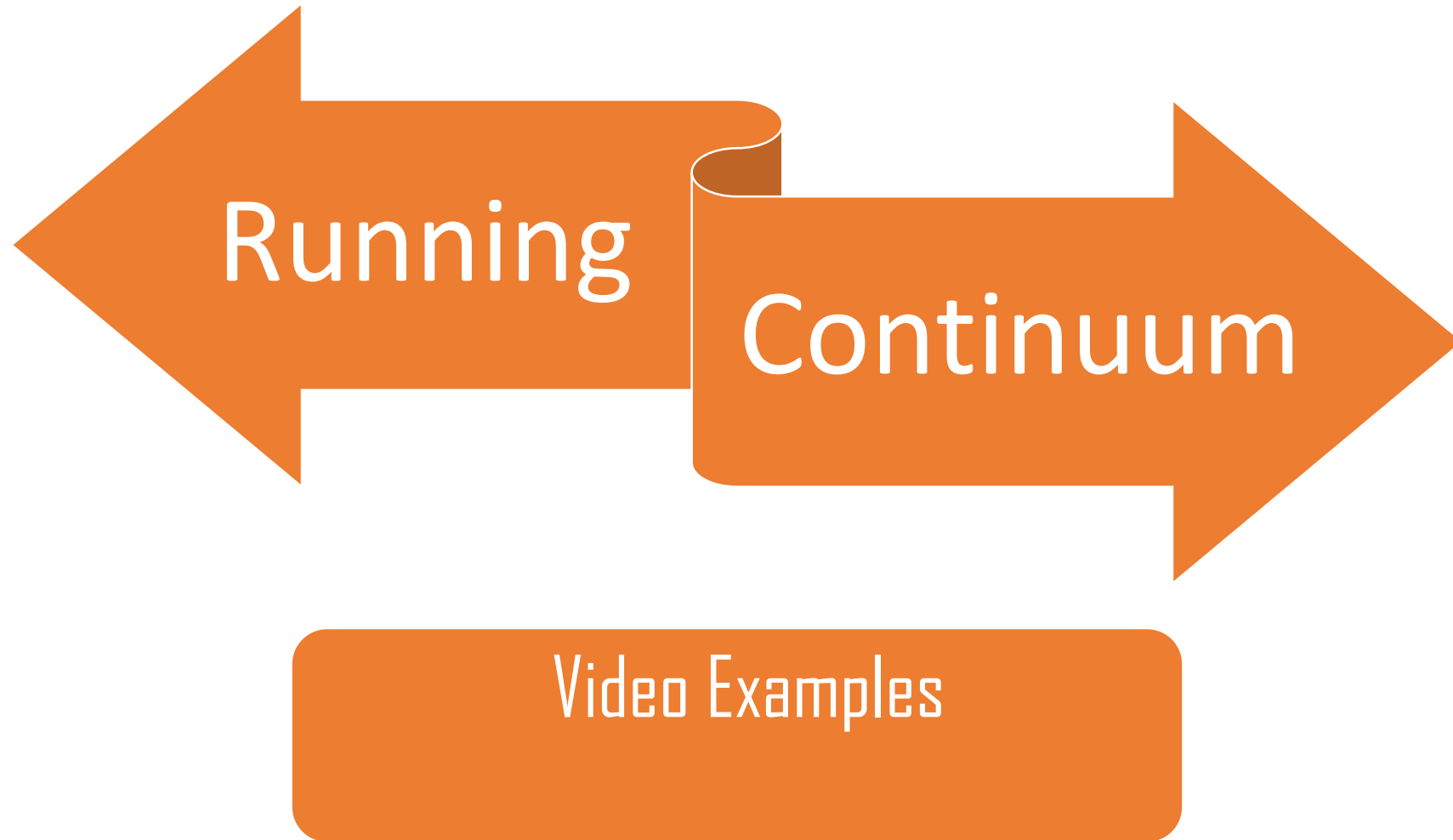


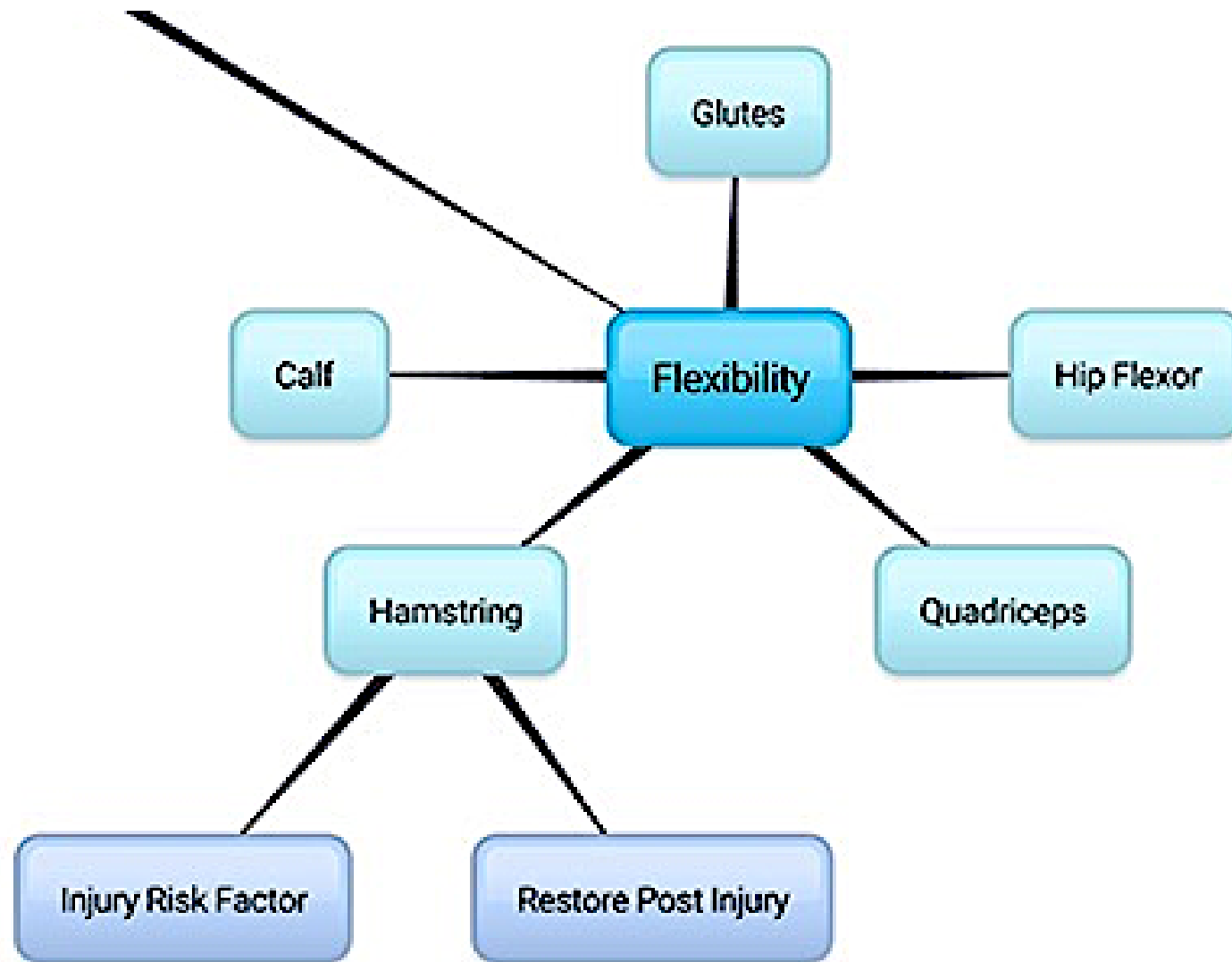
HOLISTIC HAMSTRING
HEALTH: AJ OAKLEY;
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HOLISTIC HAMSTRING HEALTH: AJ OAKLEY;
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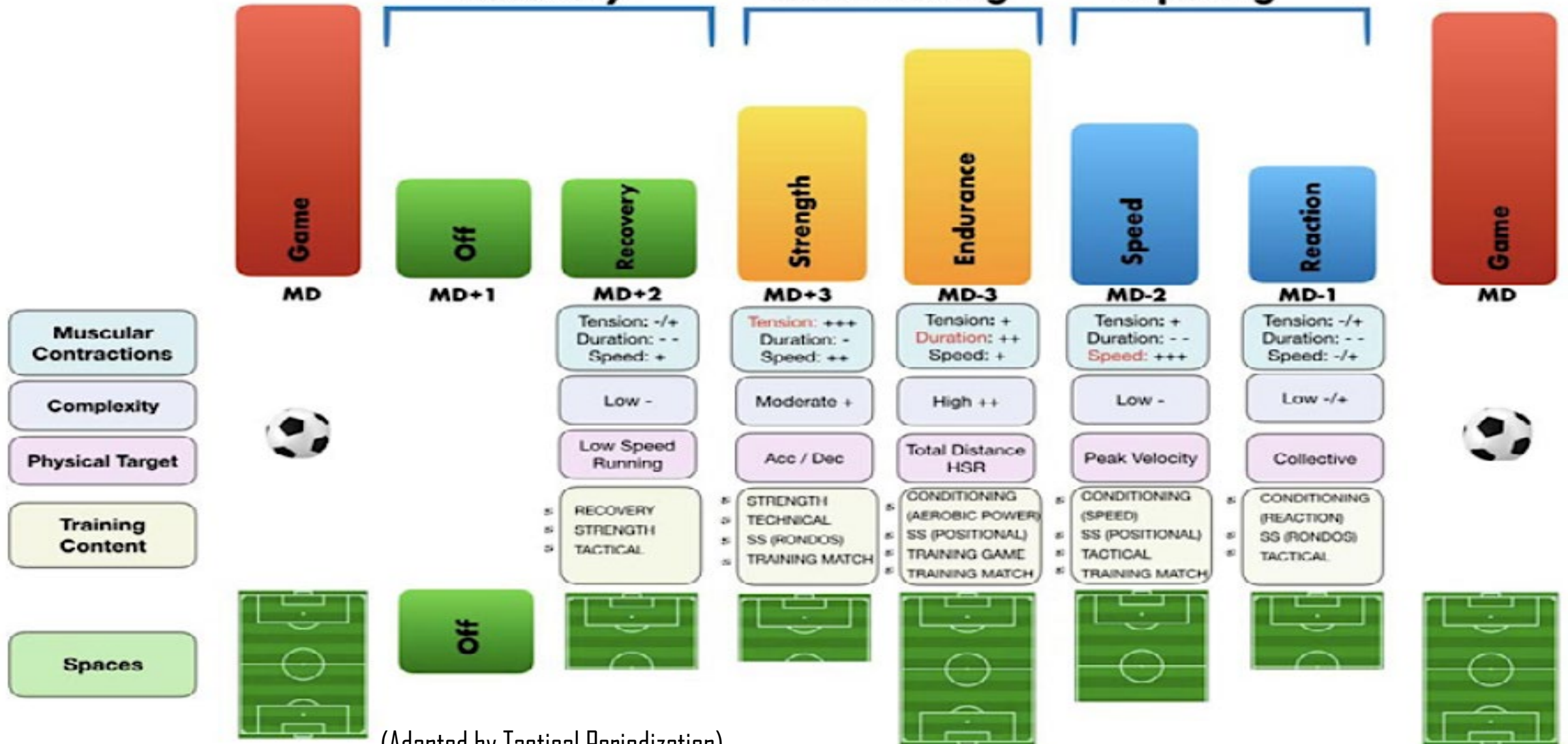


HOLISTIC HAMSTRING HEALTH: AJ OAKLEY; BMJ 2017

Recovery

Conditioning

Tapering



(Adapted by Tactical Periodization)



C O A C H
NICOLE RODRIGUEZ