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Sports Physiotherapist at Marylebone Health Group
(Hip & Groin and Muscle Injury Clinic)
MG Health & Performance (Consultancy + Mentorship)

Rectus Femoris Injuries in Football

The Assessment, Exercise and Kicking progression pathway

Anatomy

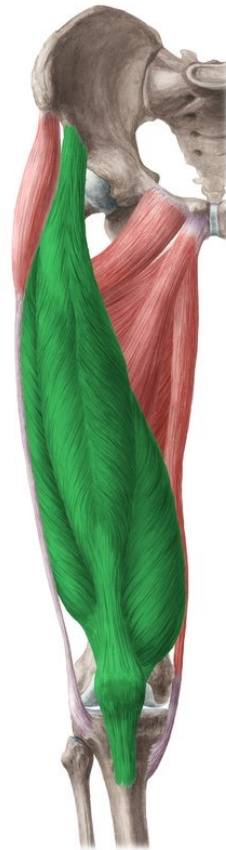
Anatomy -> Surface Anatomy & Functional Assessment

Vastii + Rectus Femoris

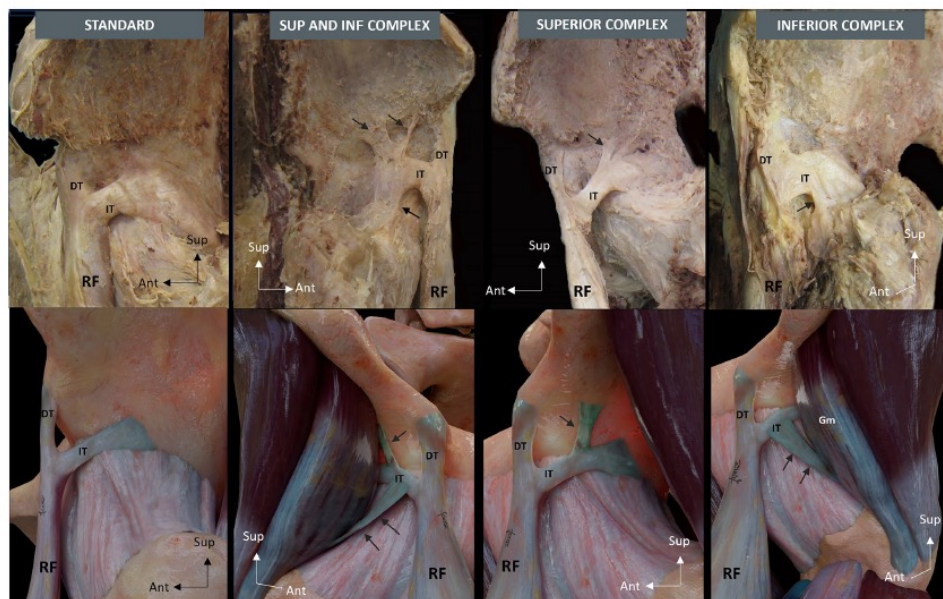
Vastus Lateralis

Rectus Femoris

Vastus Medialis

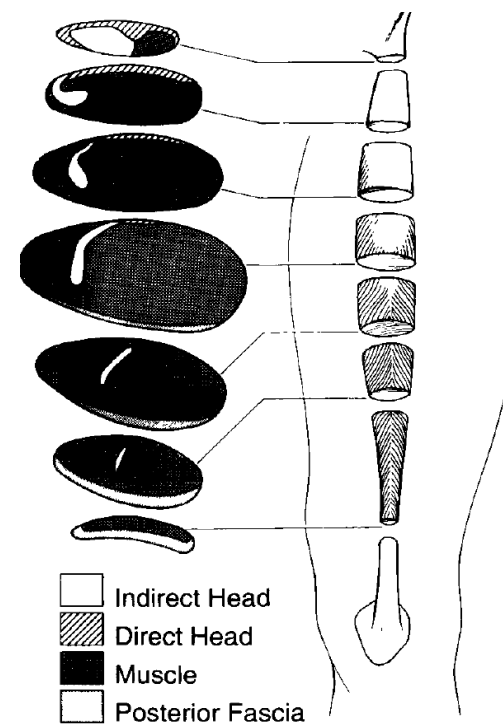


Rectus Femoris



Hip Joint Stability:

- Approximation
- Centres HoF
- Tensions anterior capsule
- Anterior buttress

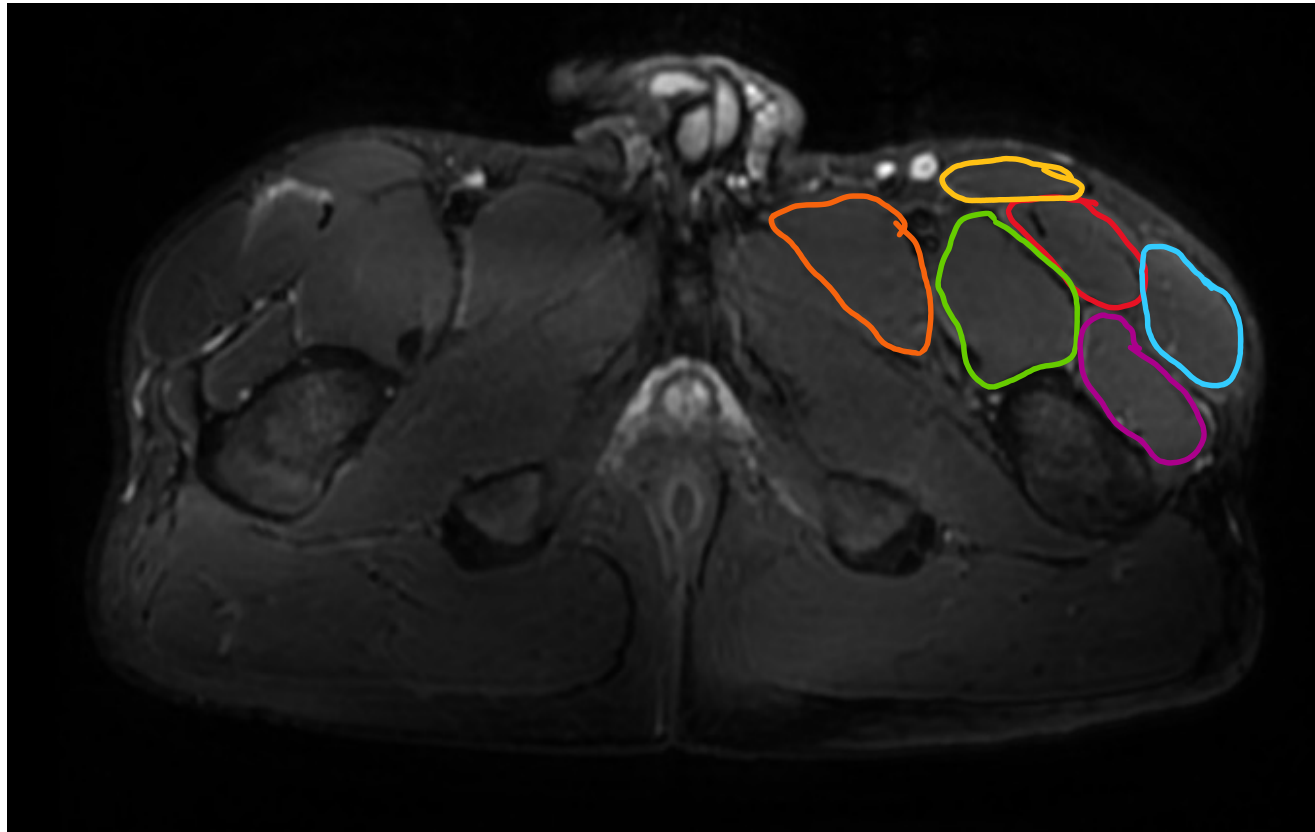


Prox: Long tendon
Distal: Stiffer tendon

Hasselmann 1995, Kassarian 2012, Slone 2015

Rectus Femoris

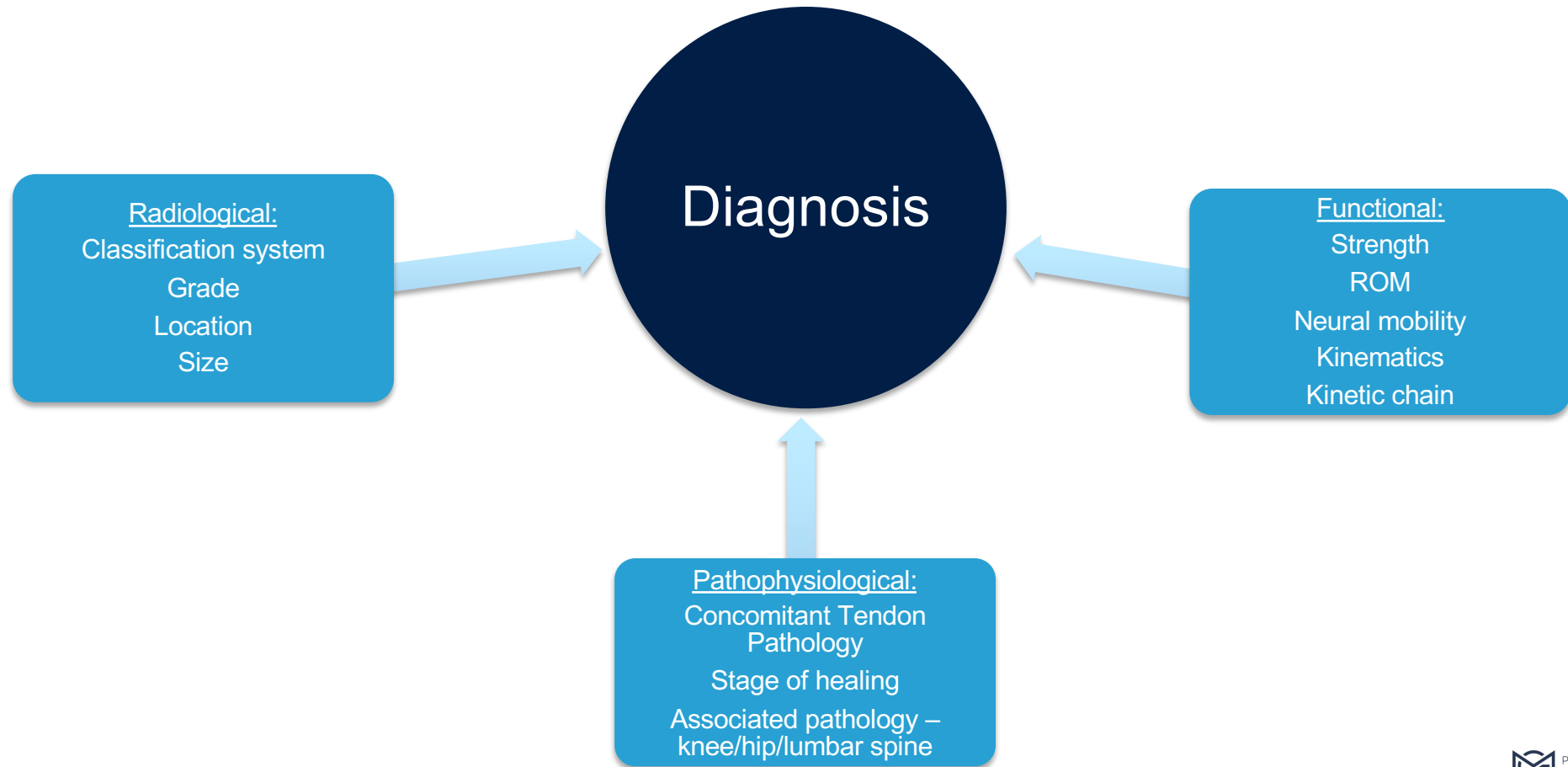
Other synergists



Practical

Surface Anatomy

More than radiology



Practical

Physical Examination

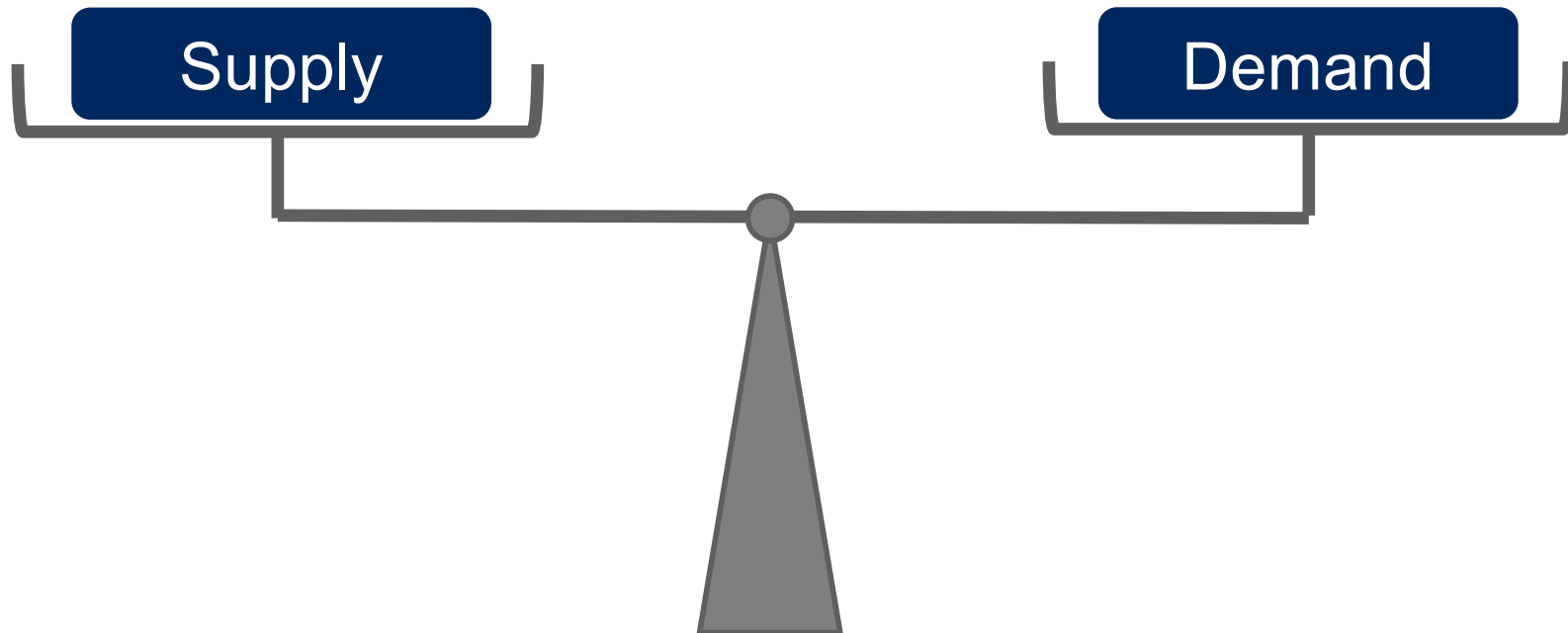
Physical Qualities

Demand vs Supply

Physical qualities -> Physical Adaptations

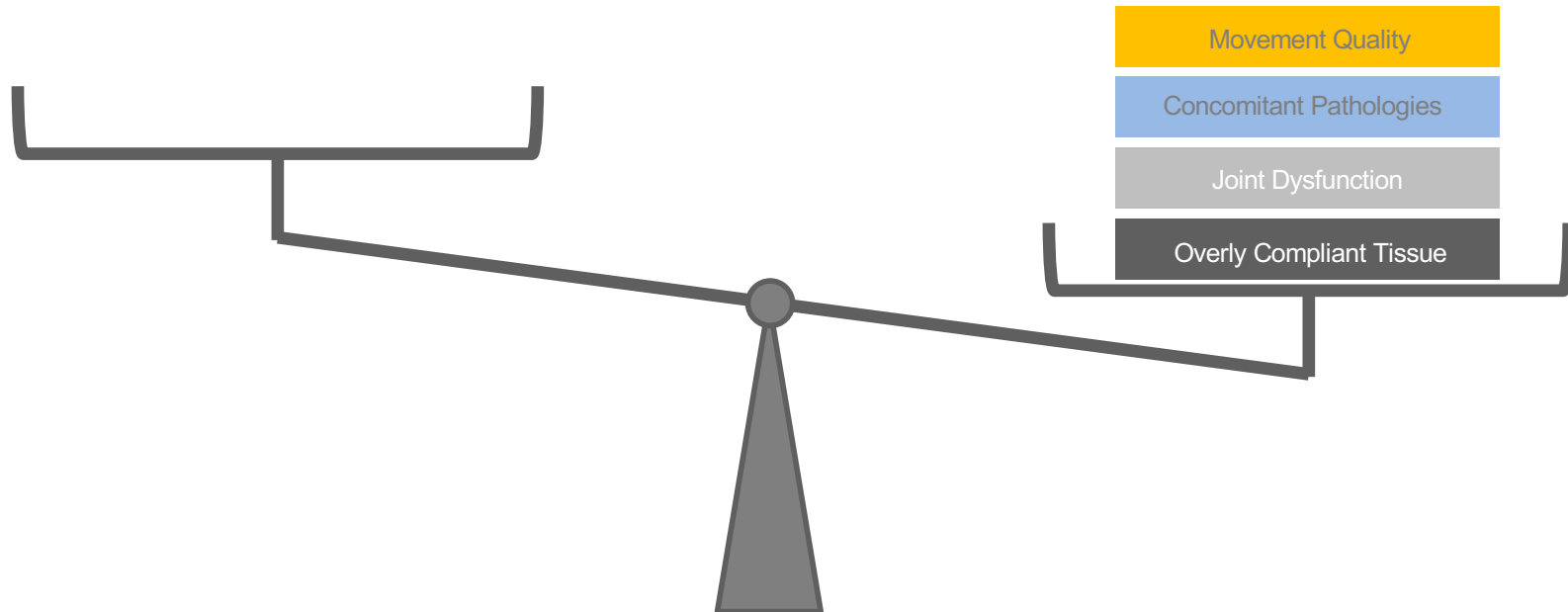
Supply vs Demand

Increasing active and passive and reducing demand



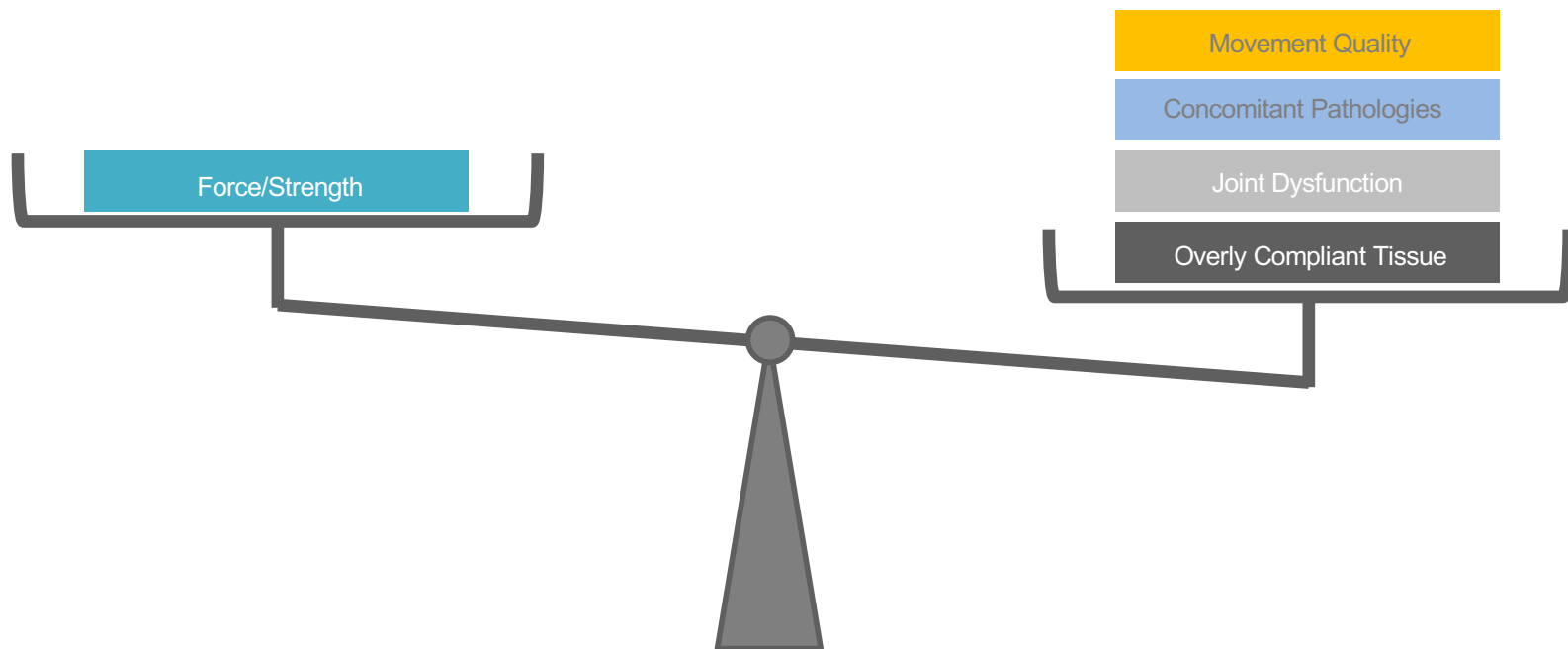
Supply

Demand

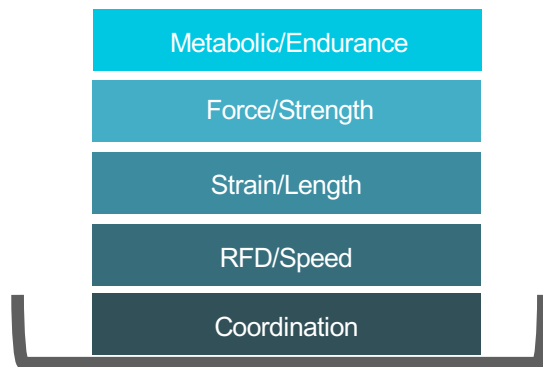


Supply

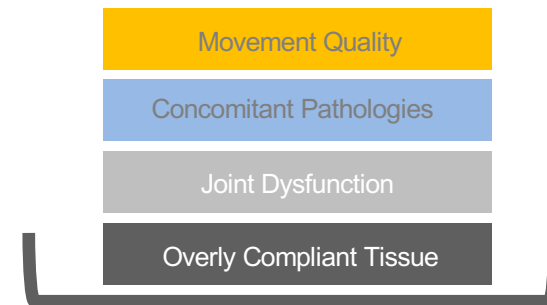
Demand



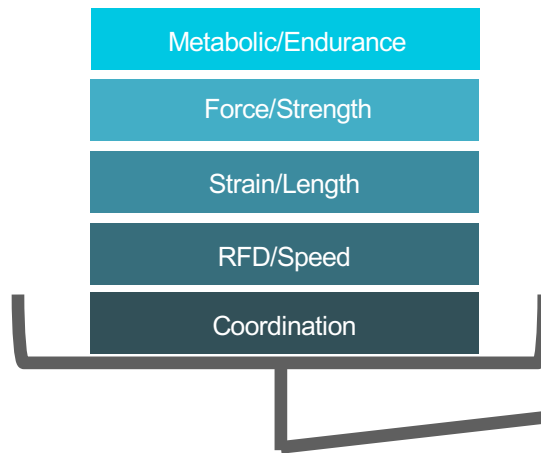
Supply



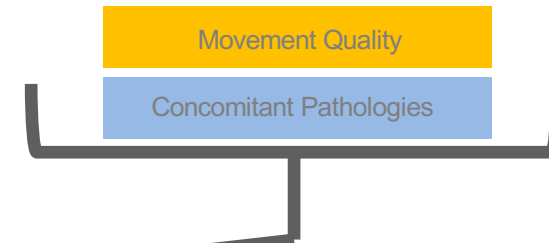
Demand



Supply



Demand



Key physical qualities

Metabolic/Endurance

- <25 reps (Freckleton 2013)

Force

- Nordbord studies – AFL, Soccer (Timmins 2015; Opar 2013)

RFD

- Reduction in RFD & Impulse (Opar 2014)

Tensile Capabilities

- Reduction in peak torque angle (Sole 2009; Opar 2014)

Coordination (Intra & Inter-muscular)

- Reduction in joint position sense, synergy function & NMI (Cameron 2003; Schuermans; Slider 2008)

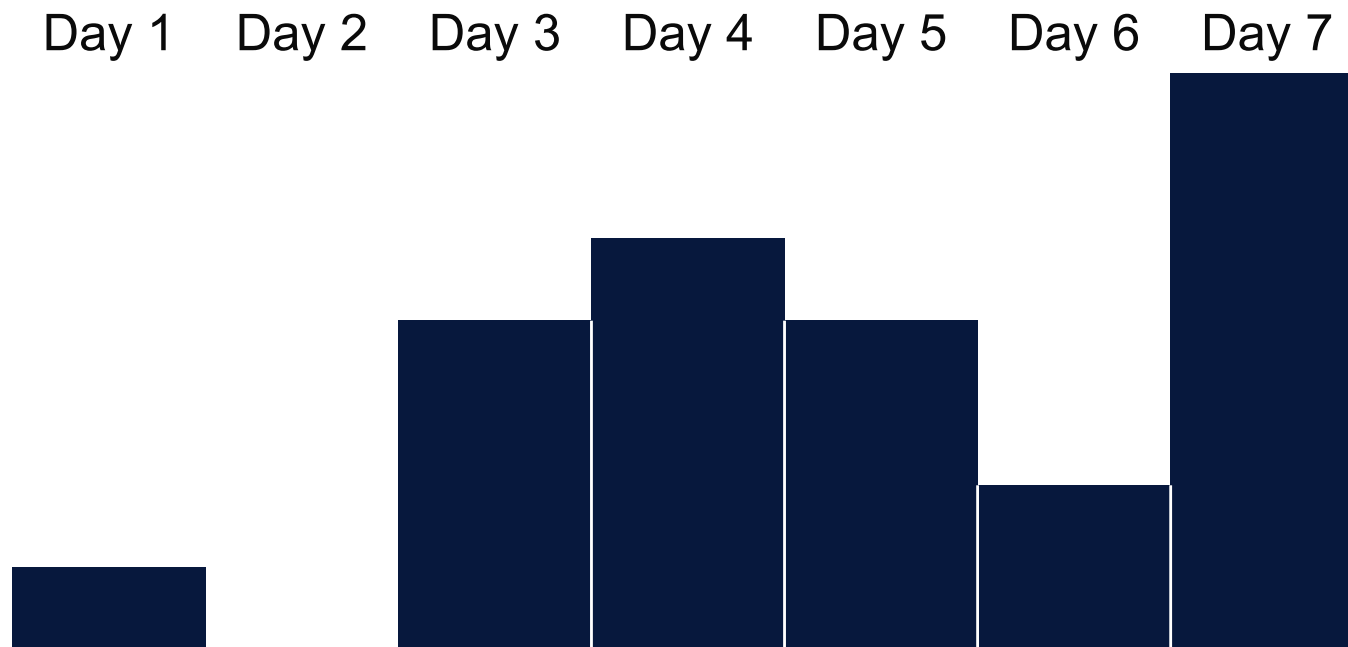
Physical Qualities

Practical: What adaptation -> What exercise

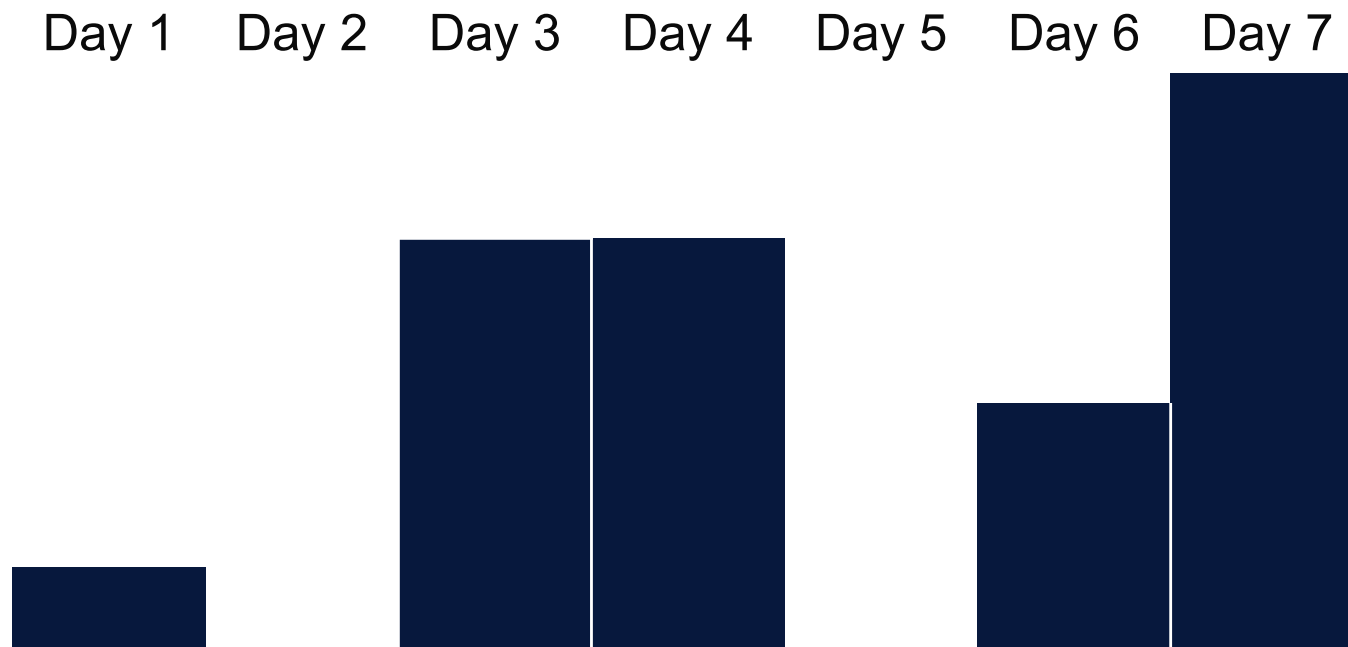
On-pitch
progression

The how?

5 vs 6 Day



5 vs 6 Day

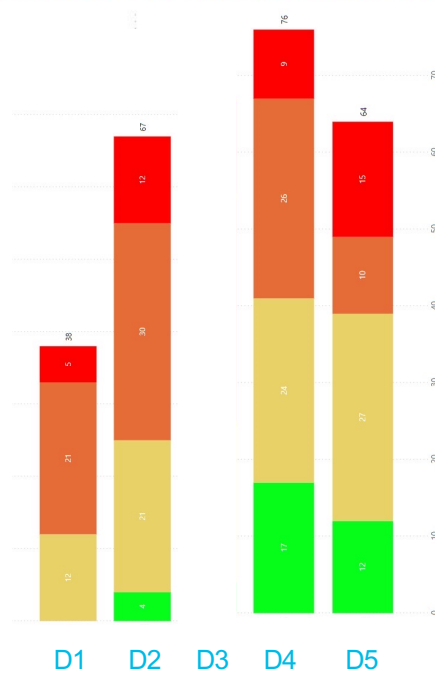


Kicking Periodisation Technology

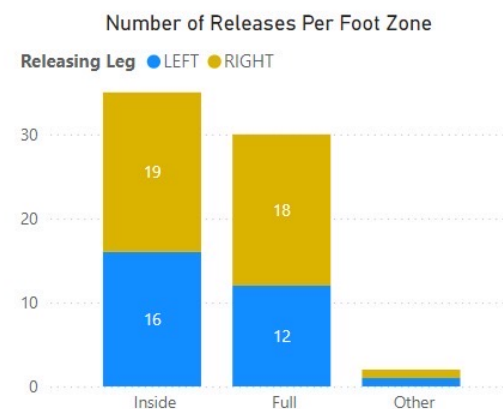
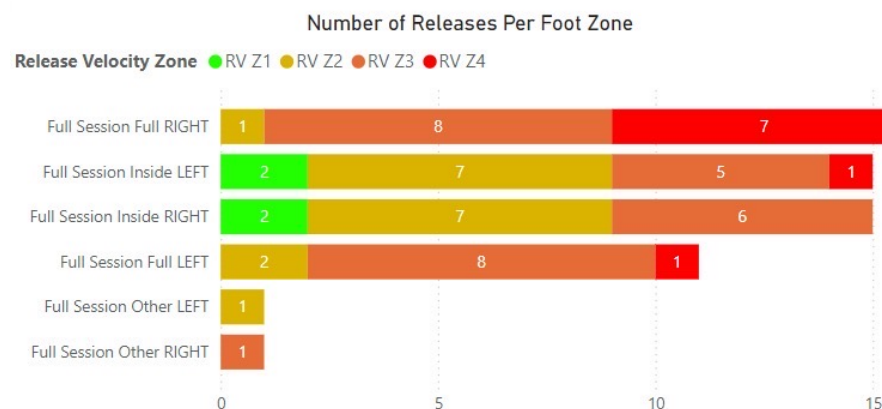
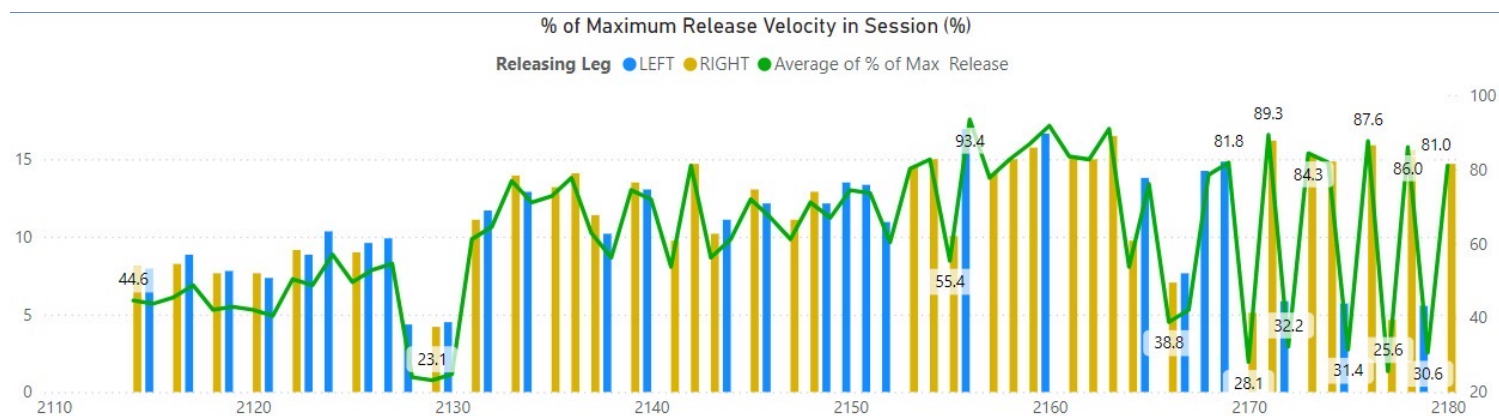
Kicking Speeds

Daily Kick Speed Zone Analysis

RV Zone 1 0-5m/s RV Zone 2 5-10m/s RV Zone 3 10-15m/s RV Zone 4 15-20m/s RV Zone 5 20-25m/s RV Zone 6 25m/s+



Kicking Periodisation Technology



Individual Kicking

Daily Kick Speed Zone Analysis

● RV Zone 1 0-5m/s ● RV Zone 2 5-10m/s ● RV Zone 3 10-15m/s ● RV Zone 4 15-20m/s ● RV Zone 5 20-25m/s ● RV Zone 6 25m/...

Max Release Velocity (m/s)

● Max of RV Left (m/s) ● Max of RV Right (m/s)

Age Group

Tutte

Date

Tutte

Phase Type

Tutte

Tag

Tutte



playermaker

02/11/22 02/11/22

04/11/22 04/11/22

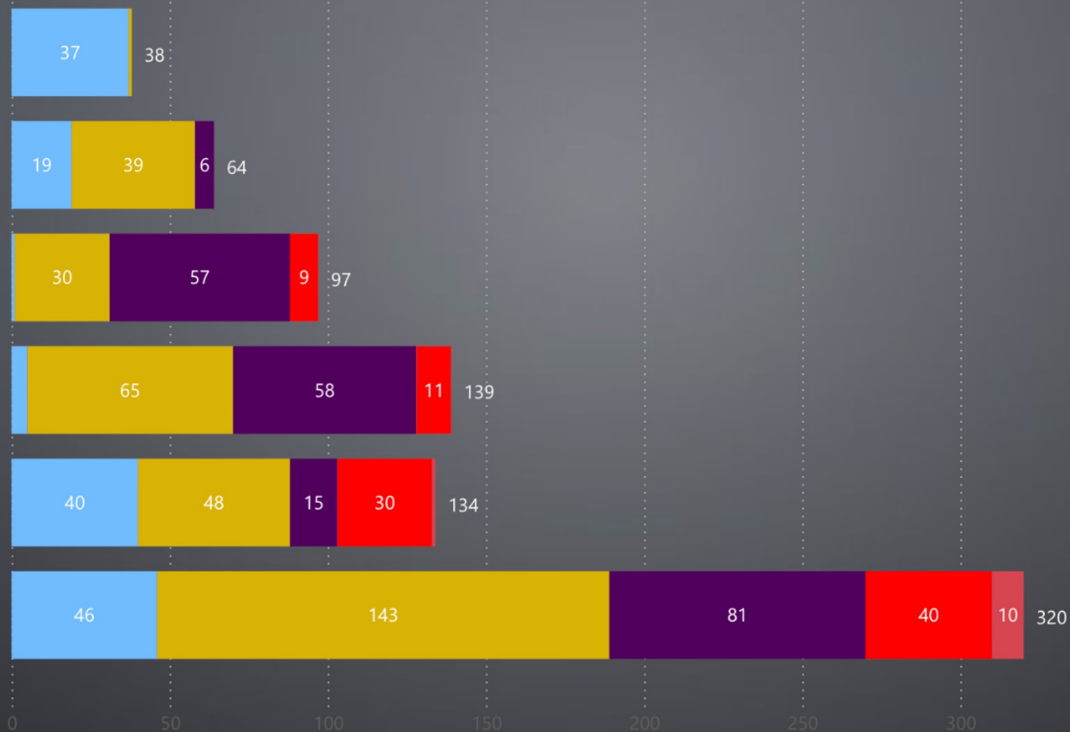
06/11/22 06/11/22

08/11/22 08/11/22

09/11/22 09/11/22

11/11/22 11/11/22

16/11/22 16/11/22



04/11/22...

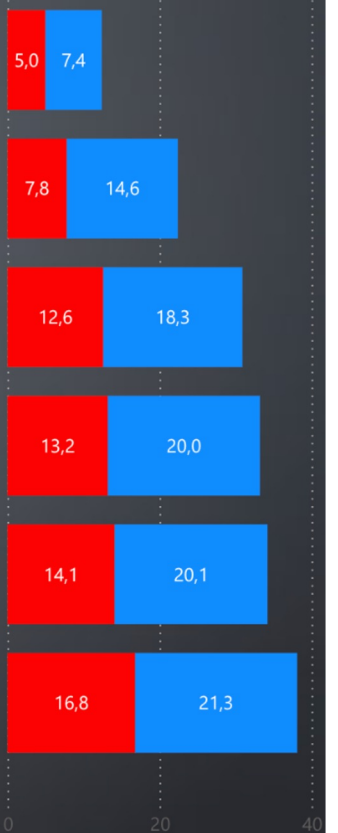
06/11/22...

08/11/22...

09/11/22...

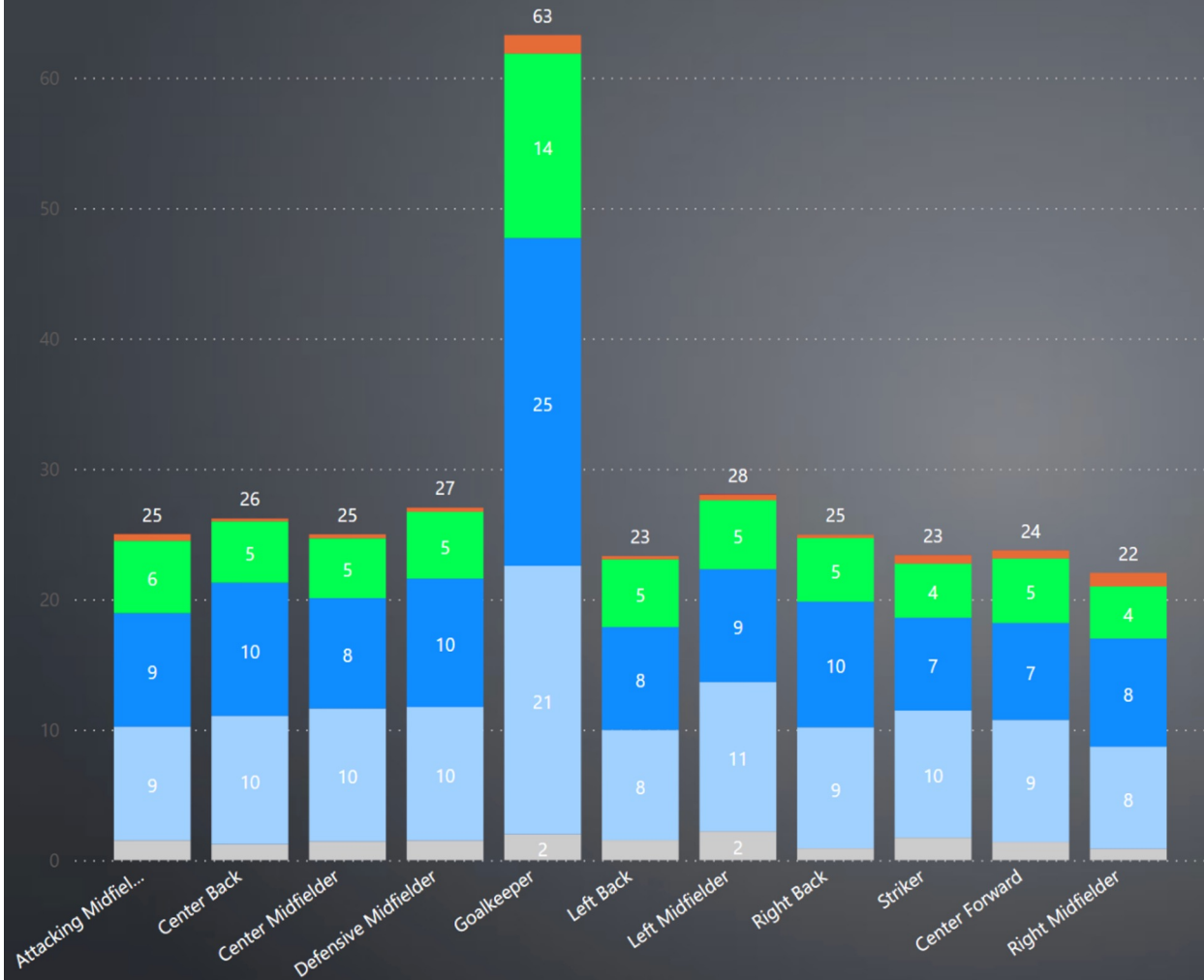
11/11/22...

16/11/22...



Daily Kick Speed Zone Analysis

● Average of RV Zone ... ● Average of RV Zo... ● Average of RV Zo... ● Average of RV ... ● Average of RV ... ● Average of R...



Max Release Velocity (m/s)

● Max of RV Left (m/s) ● Max of RV Right (m/s)

