

ACHIEVING GREATNESS

NSCA COACHES CONFERENCE

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Pragmatic Programming: *Toward Elite Enhancement*

Conflict of Interest Statement

I have no actual or potential conflict of interest in relation to this presentation....*unless winning is a violation in the terms of service.*

Objectives

Review the planning tactics used for athletes competing toward international competition in a variety of speed sports.

1. Describe overarching framework along with guiding concepts.
2. Demonstrate training as a curriculum.
3. Display training units that define each phase of training.
4. Discuss related monitoring data that affirms decision making.



Problem

Vastly different sports

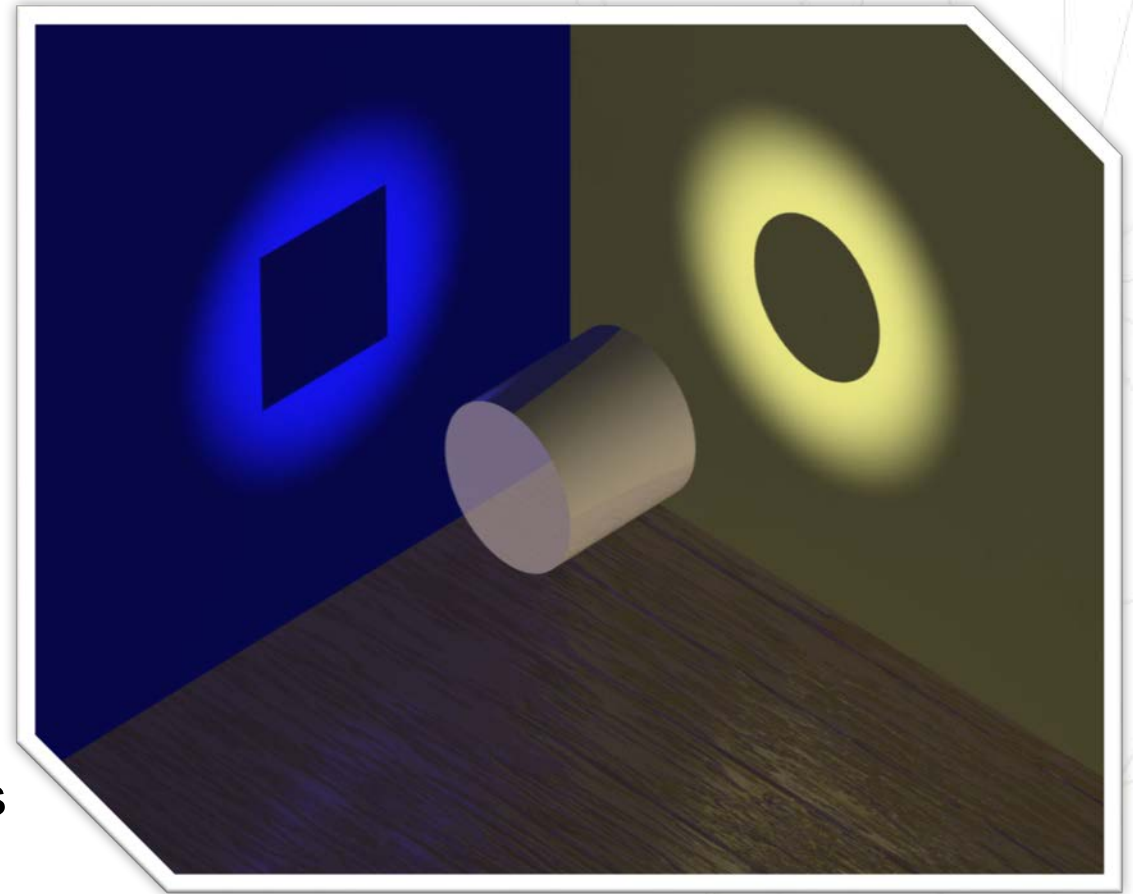
- Dominant limbs
- Competition Surface
- Temperature
- Athlete Responsibilities

Solution

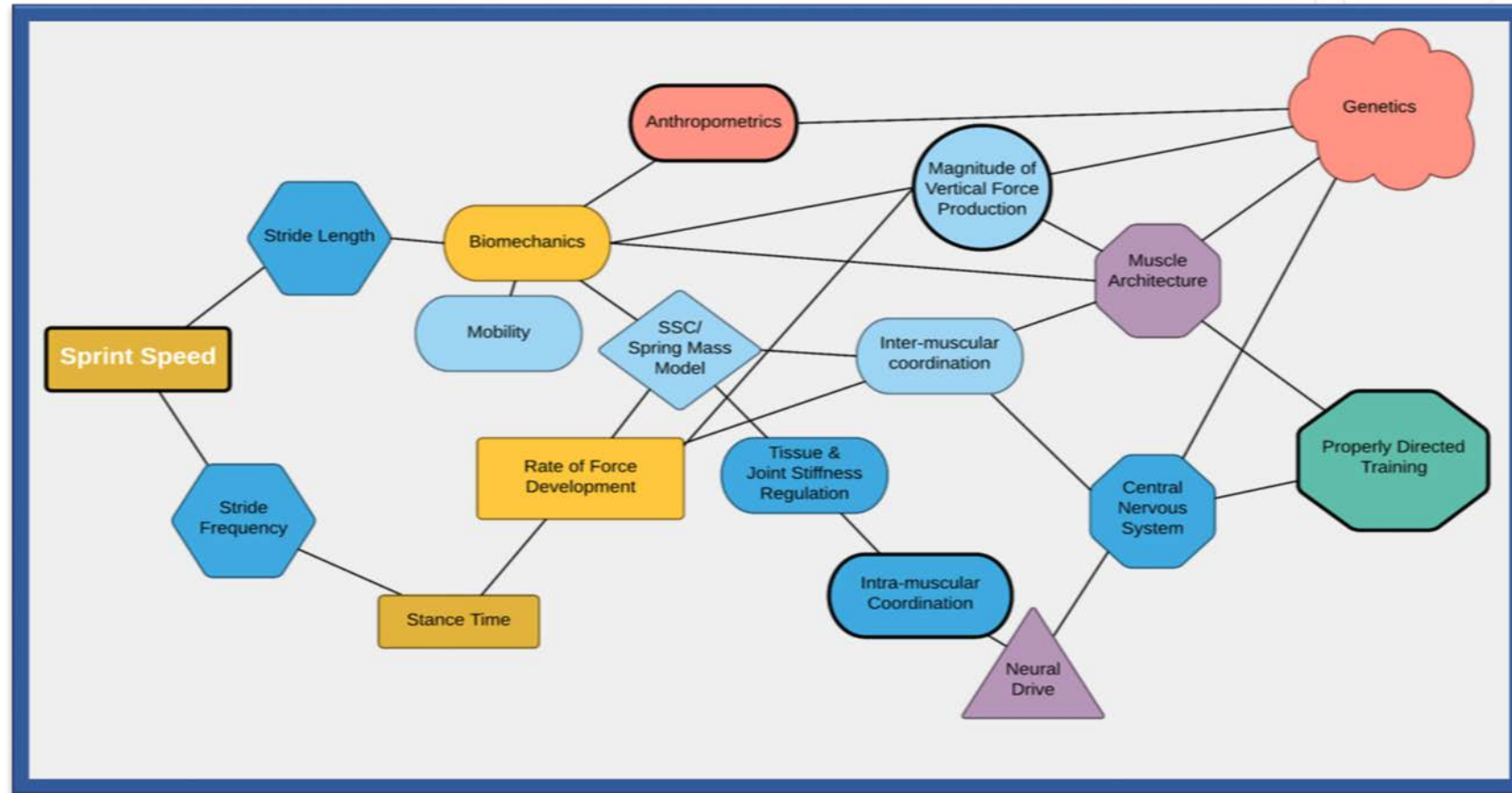
Look beyond appearances

Similar Limiting Factors

1. Properly Timed Force Production
2. Properly Tolerated Reaction Forces
3. Properly Directed Force Transmission

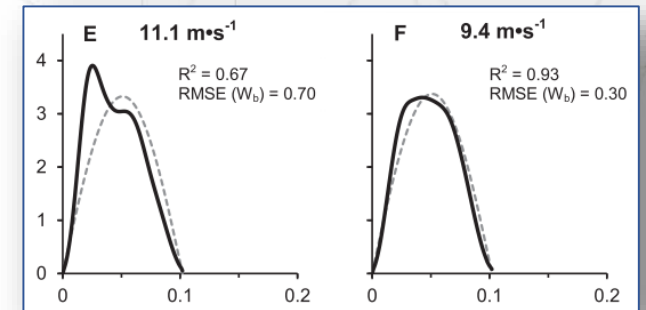
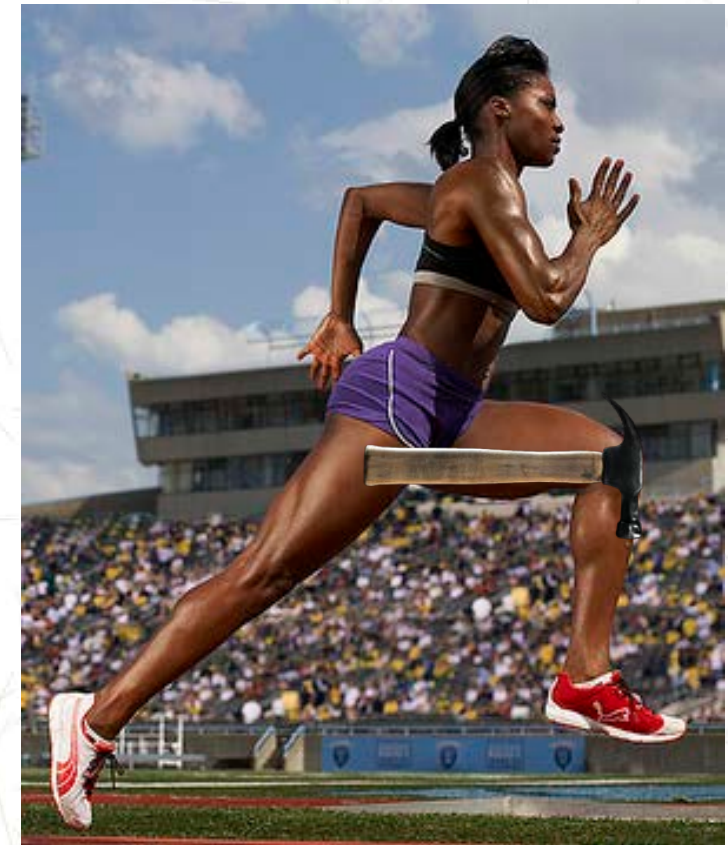


Deterministic Model of Sprint Speed

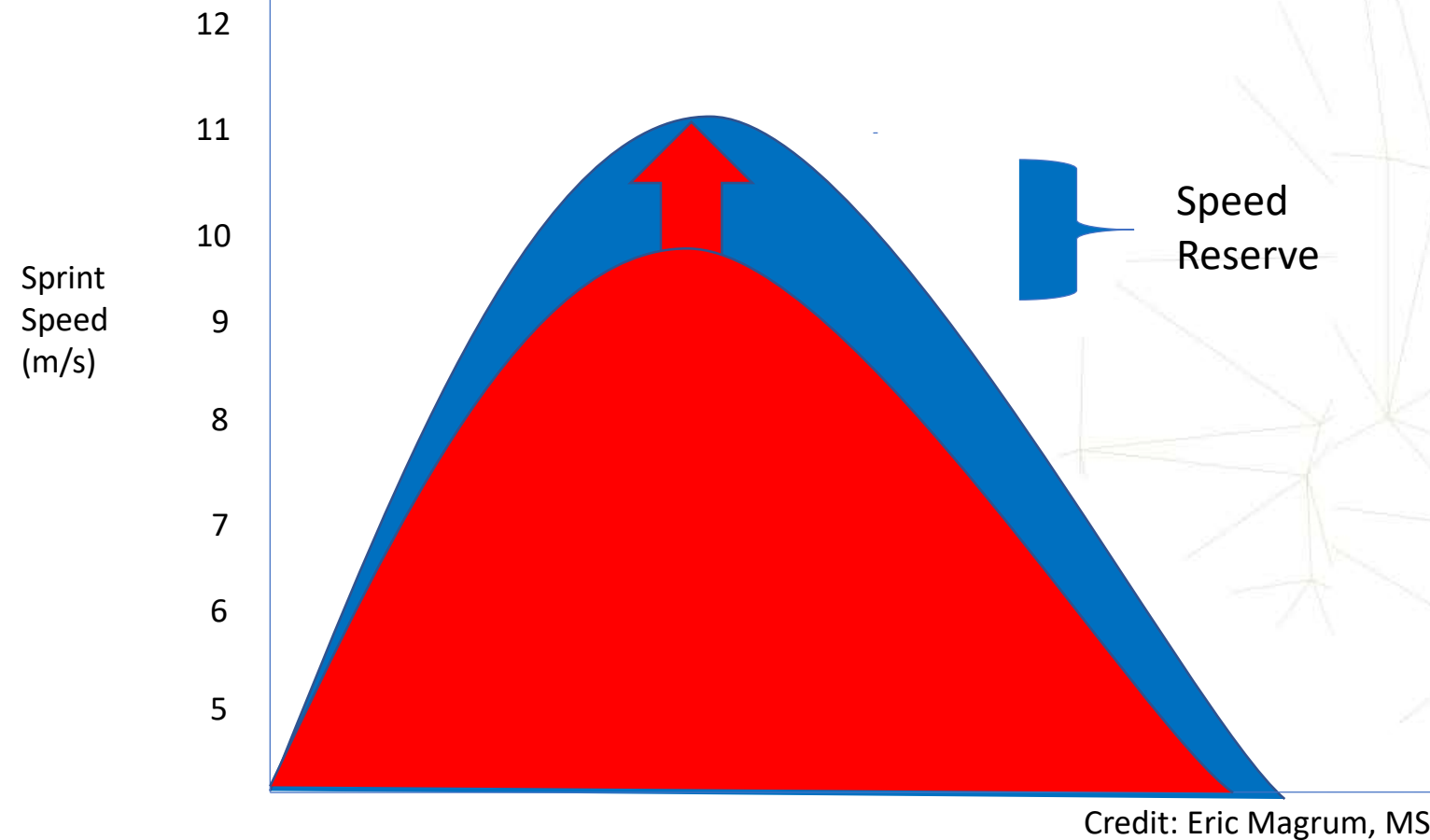


Plainly Speaking...

1. Large Forces each step;
2. Swing time doesn't matter;
3. Higher RFD = more distance in flight;.
4. During flight, better sprinters utilize ground reaction forces to achieve an optimal position with which to strike the ground. This is demonstrated by stacked joints, neutral hips/pelvis, flexed hip leading to “high knee”, and more proximal ground contact.
5. This sets up next stance phase where most force can be produced upon contact, allowing preservation of stretch-shortening cycle “elasticity”.



Goal: deepen the reserve



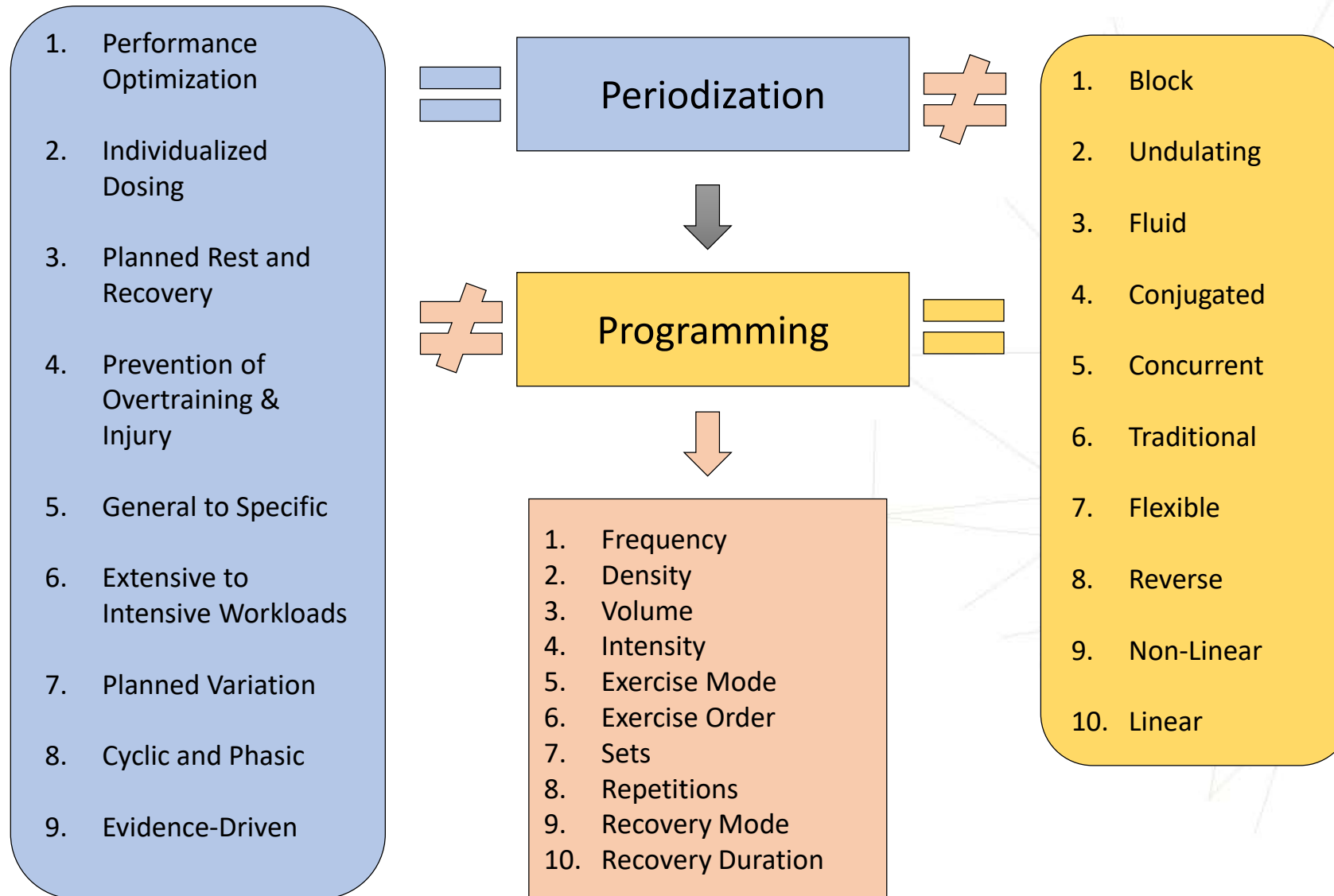
Seamless Sequential Integration

Describes the summated aspects of:

1. **Conjugate Sequential/ Phase Potentiation**: Logically Organized Fitness Phases
2. **Block**: Concentrated Loads, Unidirectional Loading, Saturates a Quality
3. **Vertical Integration**: Management of fitness characteristics over a long phase...
 - *retention versus removal*
4. **Short to Long**: Traditionally describes maturation of acceleration prior to top speed running, ideally refers to skill proficiency
5. **Procedural Memory Development**: Method to address cognitive load through segmented learning opportunities

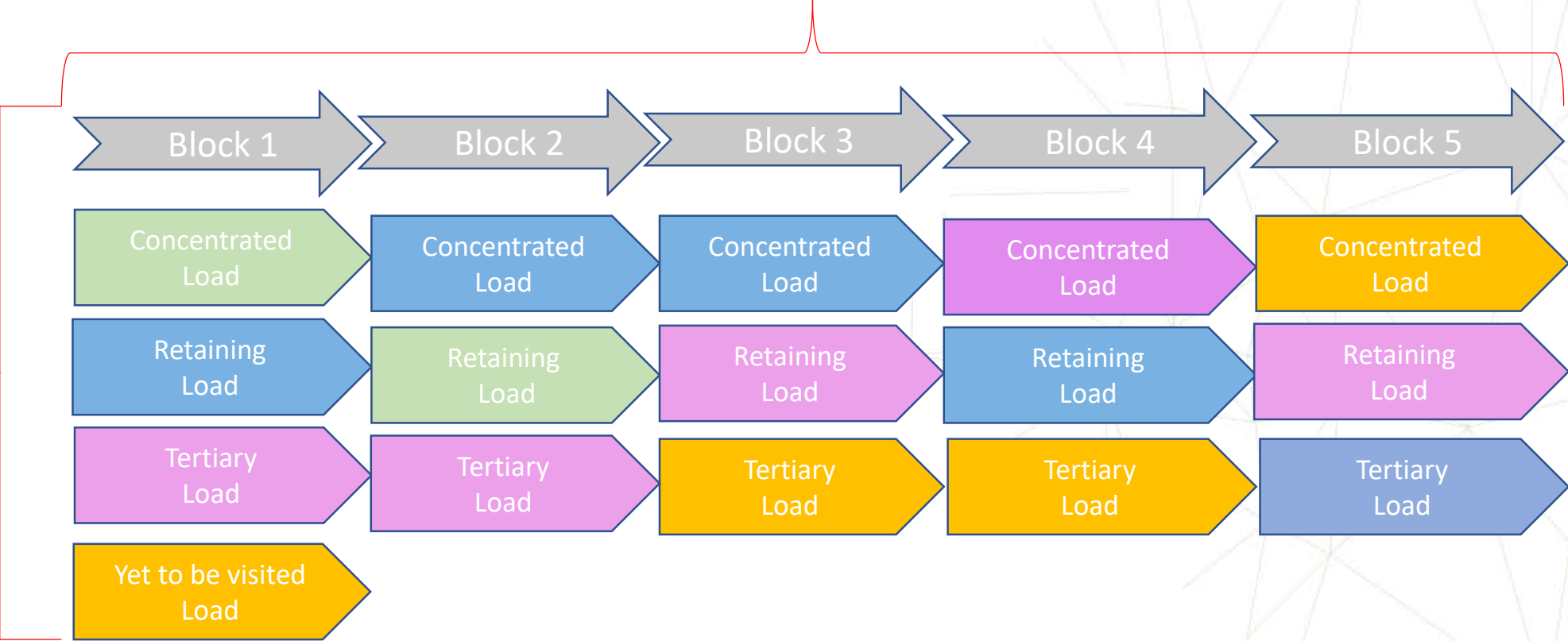
PERIODIZATION

... is dead

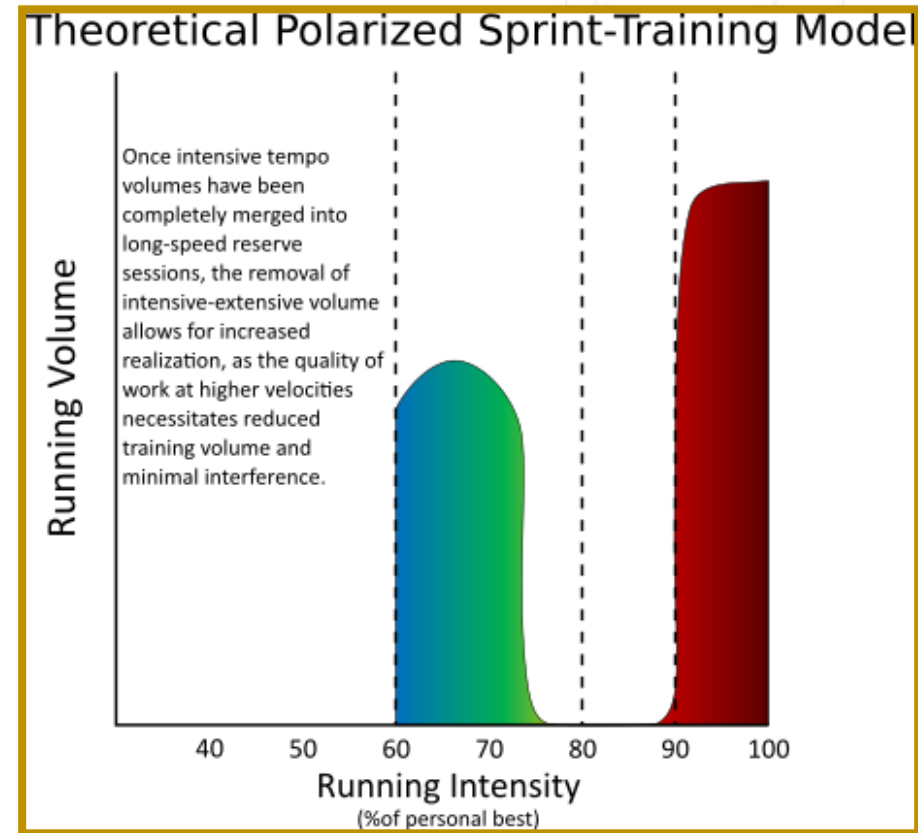
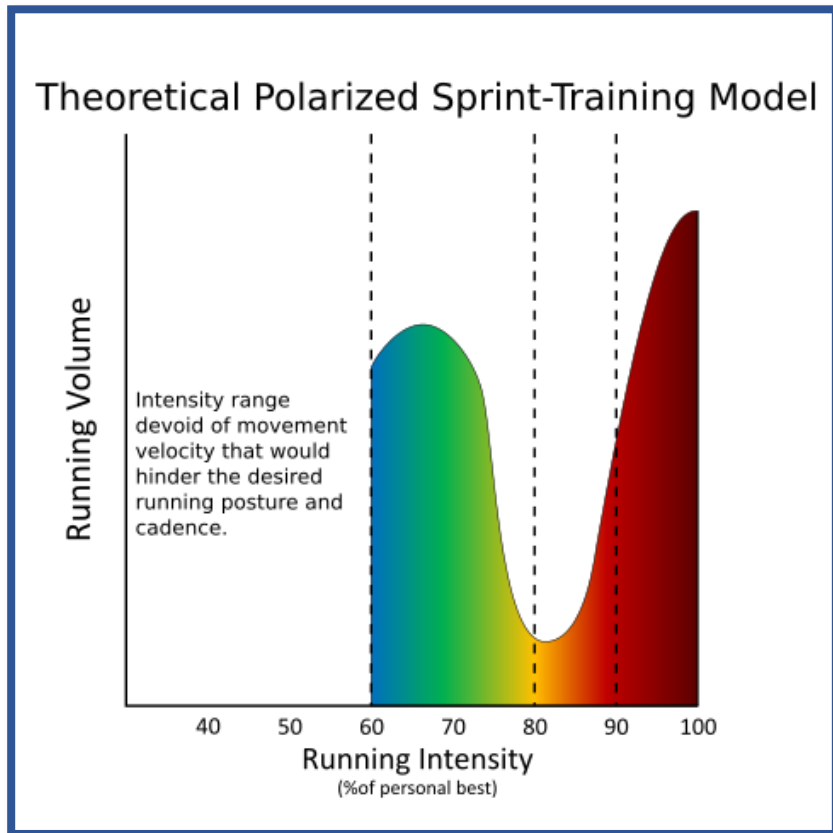


Conjugate Sequential

Vertical
Integration

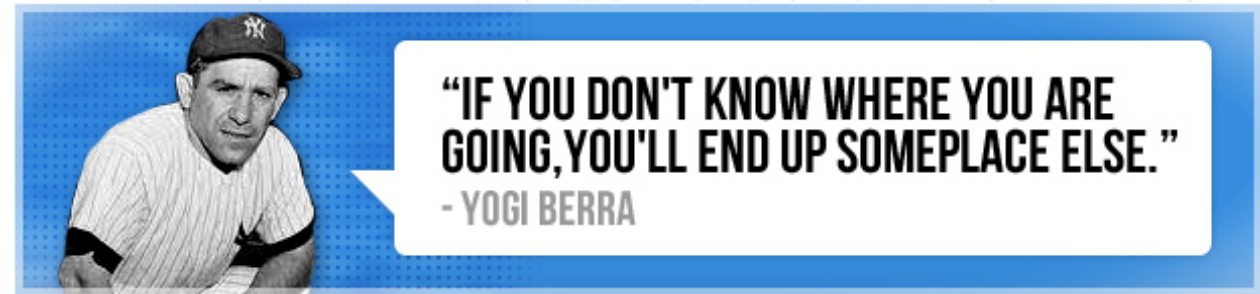
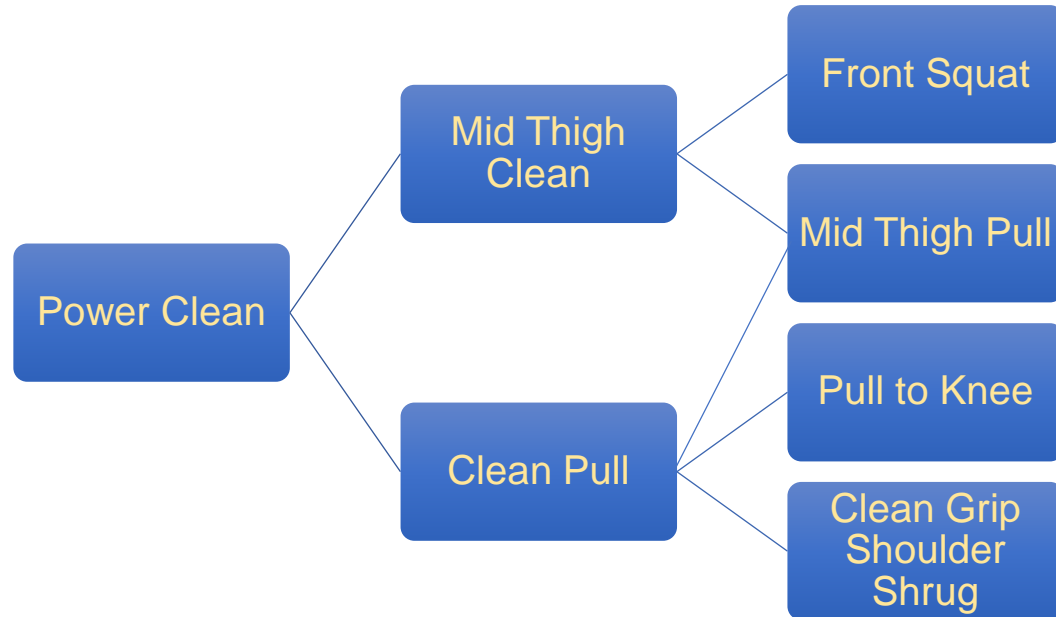


Polarity



Procedural Memory development

Guides much of the design process with regard to concentrated loads (skills) and exercise selection

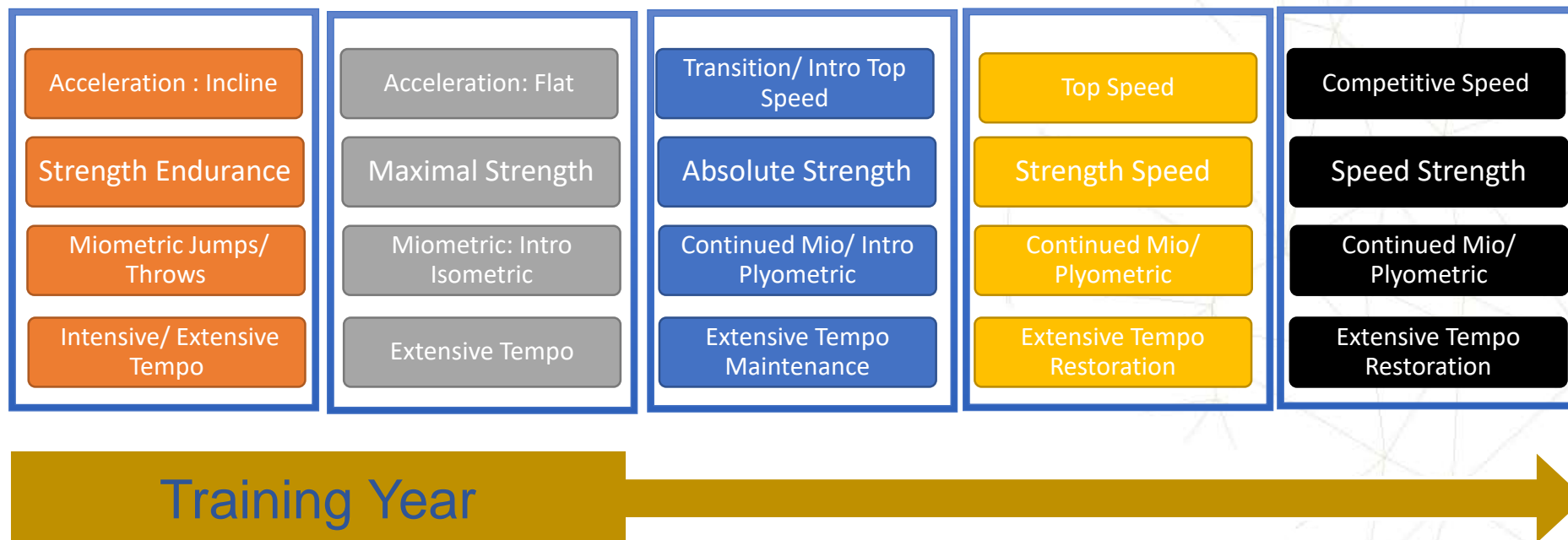


Short to Long

1. More than distance prescription
2. Refers to skill acquisition, maturity, maintenance
3. “If it looks right, it’ll fly right”: **Magnitude & Direction**



Organization of the Curriculum



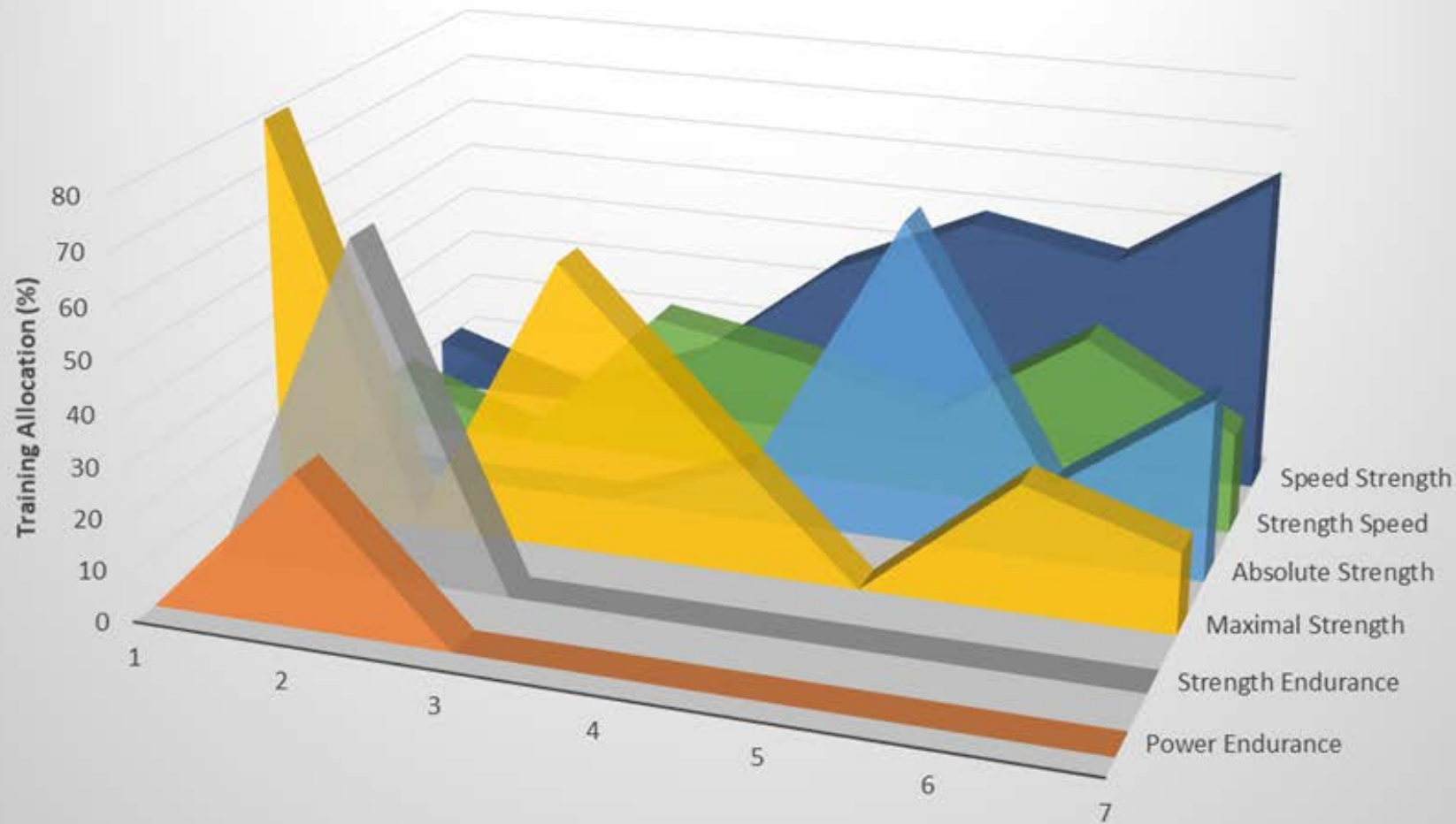
Setting the Load: Calculate & Autoregulate

PRESCRIBED SET-REP	% OF SET-REP BEST	REPS LEFT AFTER FIRST SET	REPS LEFT AFTER LAST SET
4x2	70%	5	4-5
	75%	4-5	4
	80%	4	4
	82.5%	3-4	3-4
	85%	3	3
	87.5%	2-3	2-3
	90%	2	2
	92.5%	1-2	1-2
	95%	1	1
	100%	1	0
3x2	70%	4-5	4
	75%	4	3-4
	80%	3-4	3
	82.5%	3	2-3
	85%	2-3	2-3
	87.5%	2	1-2
	90%	1-2	1-2
	92.5%	1	1
	95%	1	0-1
	100%	1	0

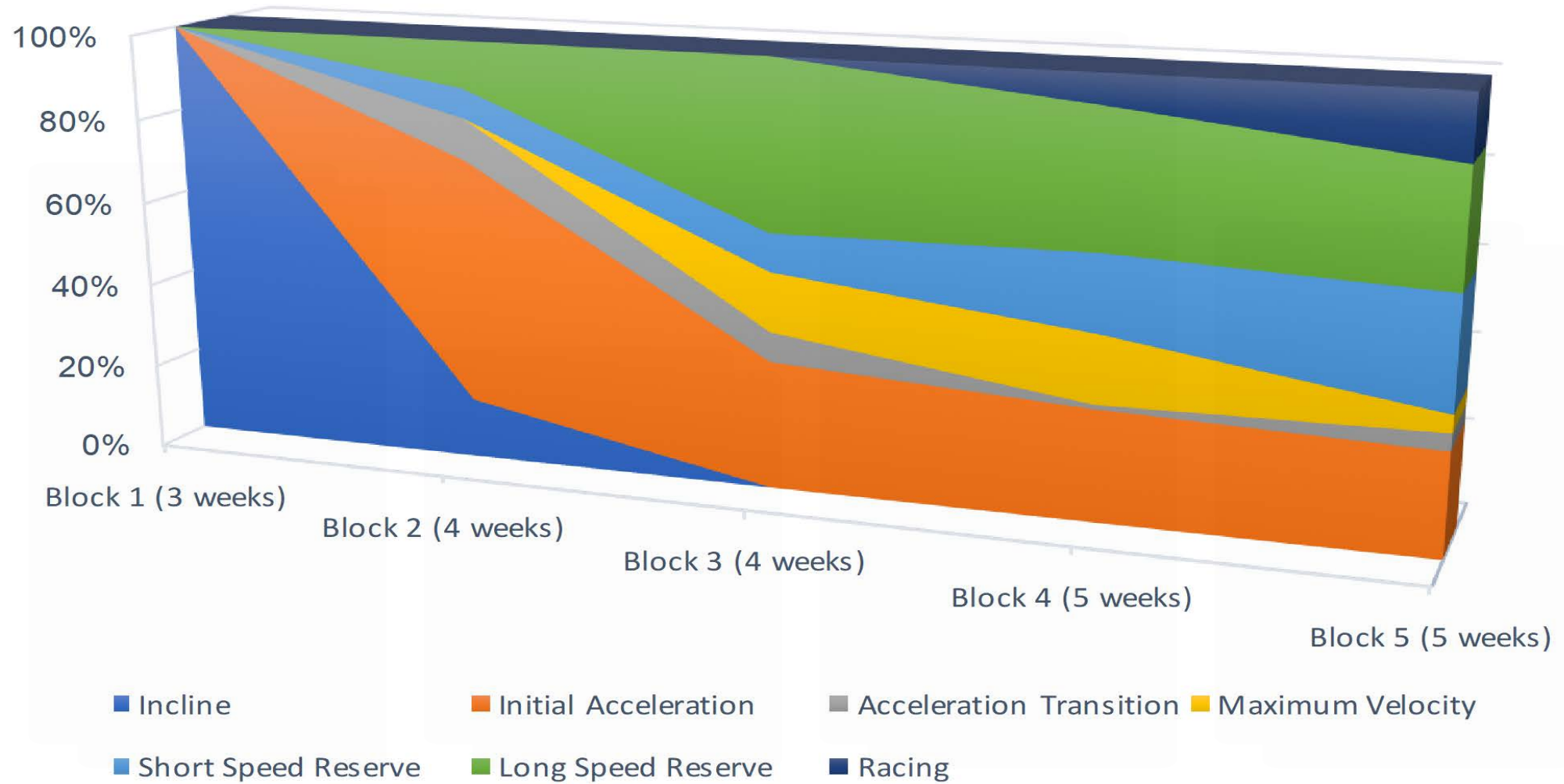
Heavy & Light Days

Day	Exercise	Set	Load	Average Velocity	RIR	Characteristic
Monday	Push Press	WU 1	135	1.26	6	Starting Strength
		WU 2	160	1.11	5	Speed Strength
		WK 1	175	0.93	2	Strength Speed
		WK 2	185	0.96	3	Strength Speed
		WK 3	185	0.92	2	Strength Speed
		WD 1	150	1.19	4	Speed Strength
	Back Squat	WU 1	185	1.16	7	Speed Strength
		WU 2	235	1.04	4	Strength Speed
		WK 1	280	0.77	3	Max Strength
		WK 2	285	0.73	2	Max Strength
		WK 3	275	0.76	3	Max Strength
		WD 1	200	1.13	6	Speed Strength
Friday	Push Press	WU 1	125	1.32	5	Starting Strength
		WK 1	150	1.16	4	Speed Strength
		WK 2	150	1.22	4	Speed Strength
		WK 3	150	1.2	4	Speed Strength
	Back Squat	WU 1	155	1.28	7	Starting Strength
		WU 2	205	1.12	5	Speed Strength
		WK 1	225	1.04	4	Speed Strength
		WK 2	230	1.1	4	Speed Strength
		WK 3	230	1.07	4	Speed Strength

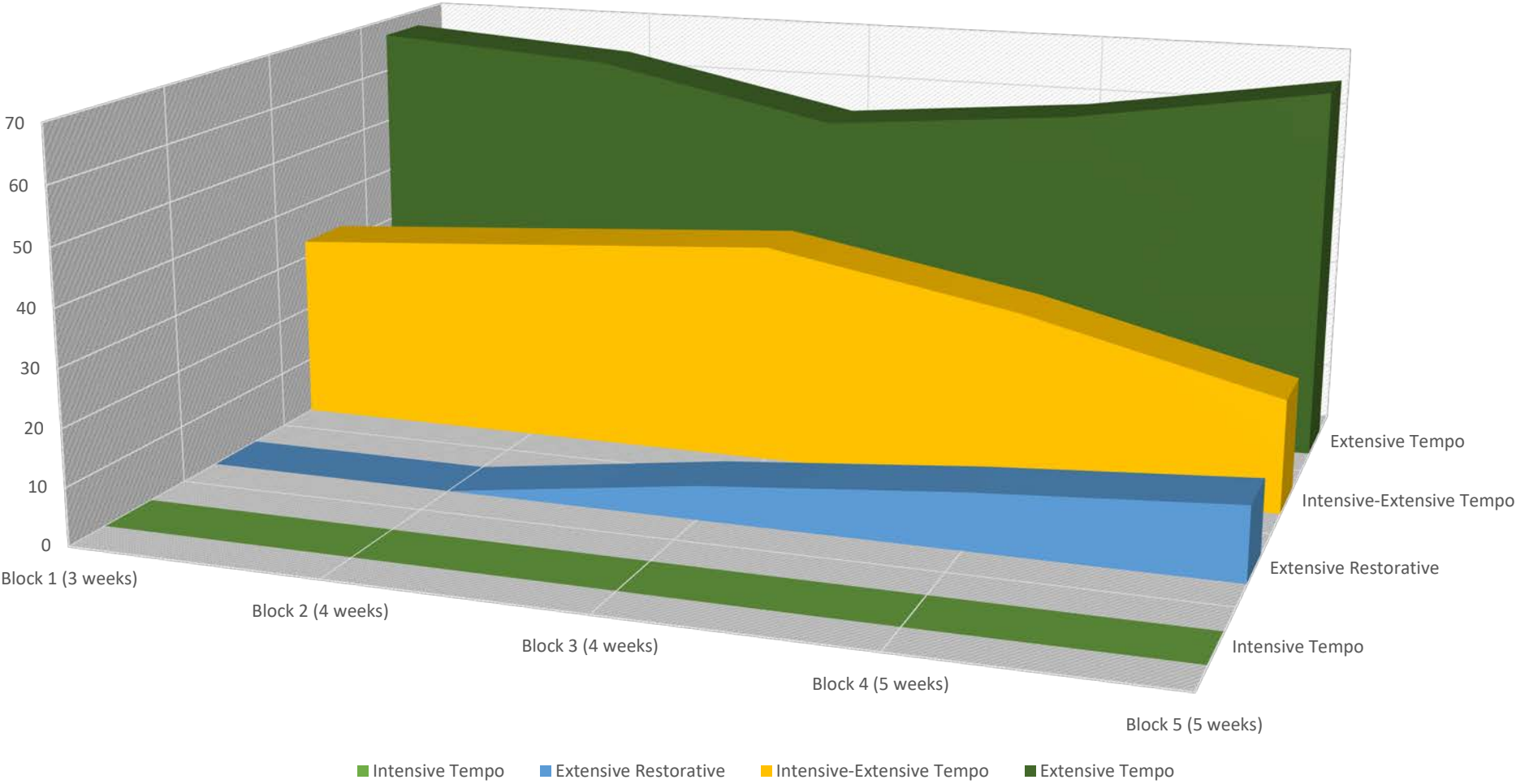
sequenced Integration: Strength



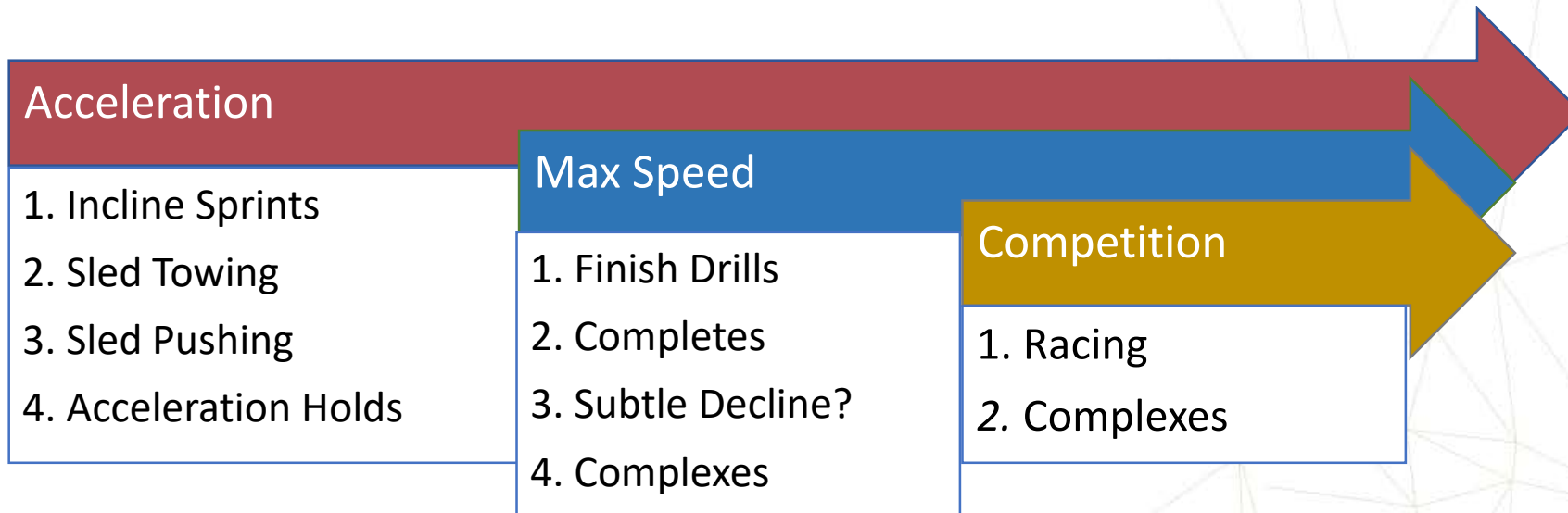
Sequenced Integration: Speed



sequenced Integration: Tempo



Speed sequencing

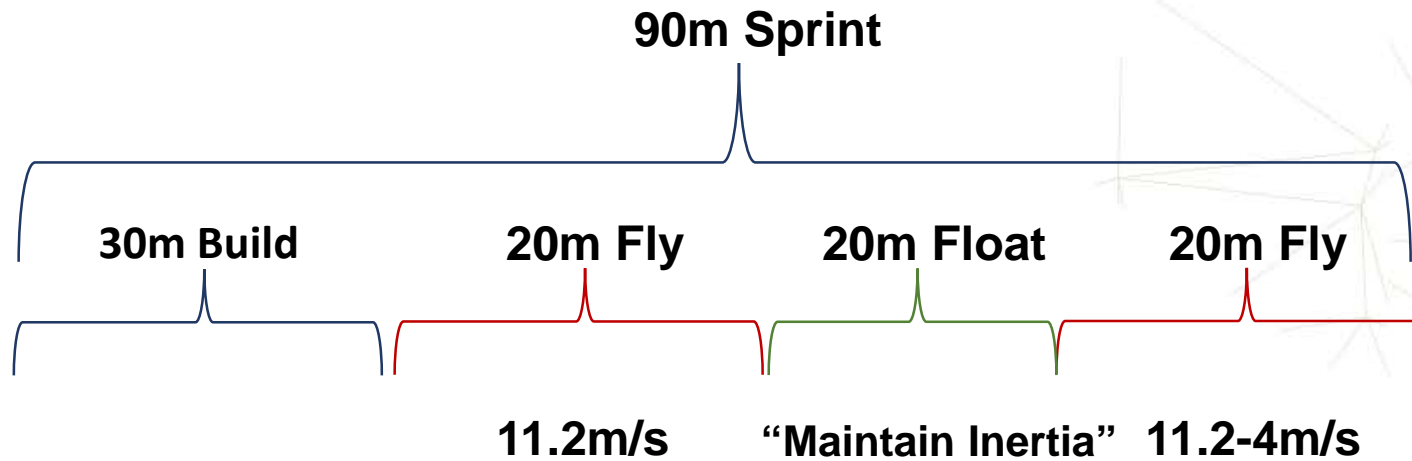


Aim(s):

1. Just as with strength training, the ability to produce force underpins sprint success.
2. Never completely remove acceleration training.
3. Build top speed as readiness becomes apparent (AKA optimized force production)

In & Out's/ Fly-Float-Fly

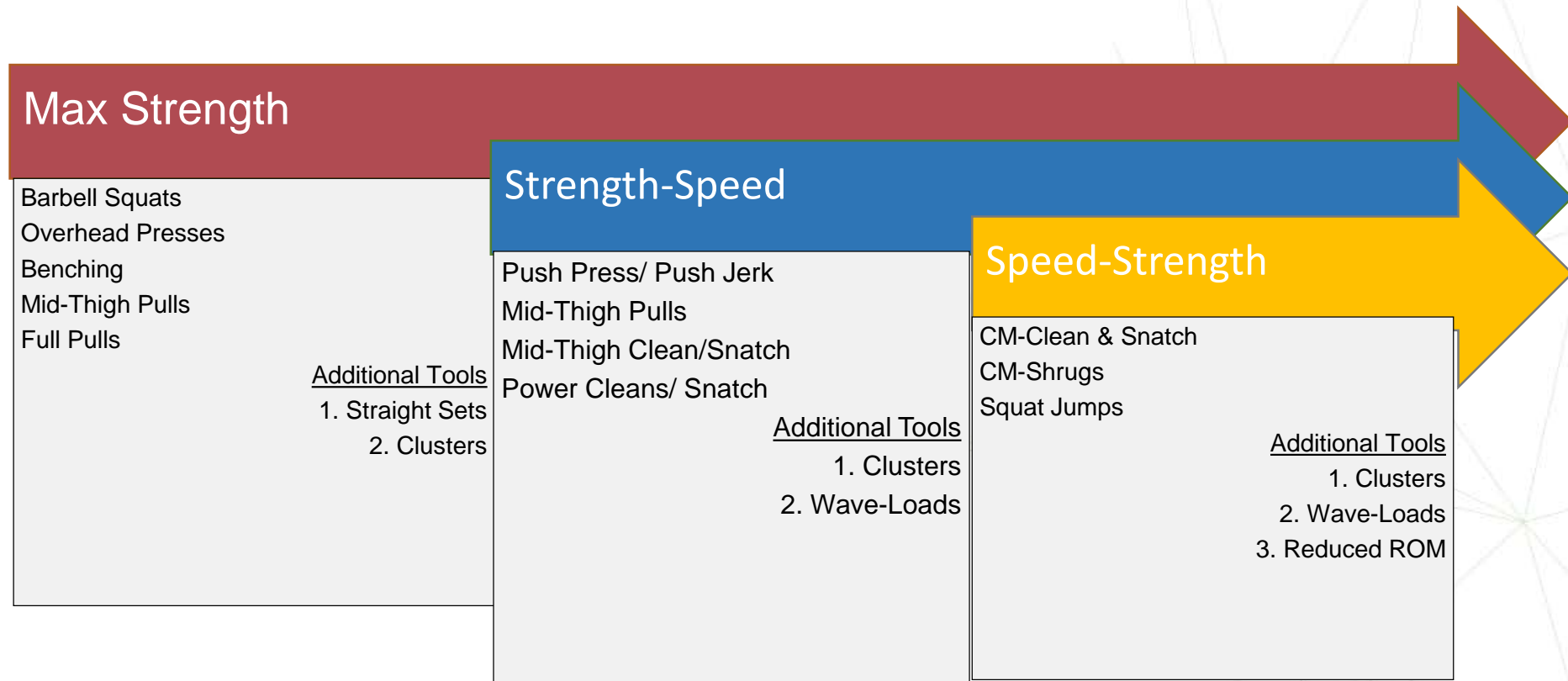
- *Intense training unit meant to exploit density...*
- More meters at high velocity than what can be managed in straight sprint....*neural factors*.
- Entry modified based on point at which shin and torso are “up”.
- The Song remains the same.....”Push and Climb”



Surfing with speed



Strength sequencing

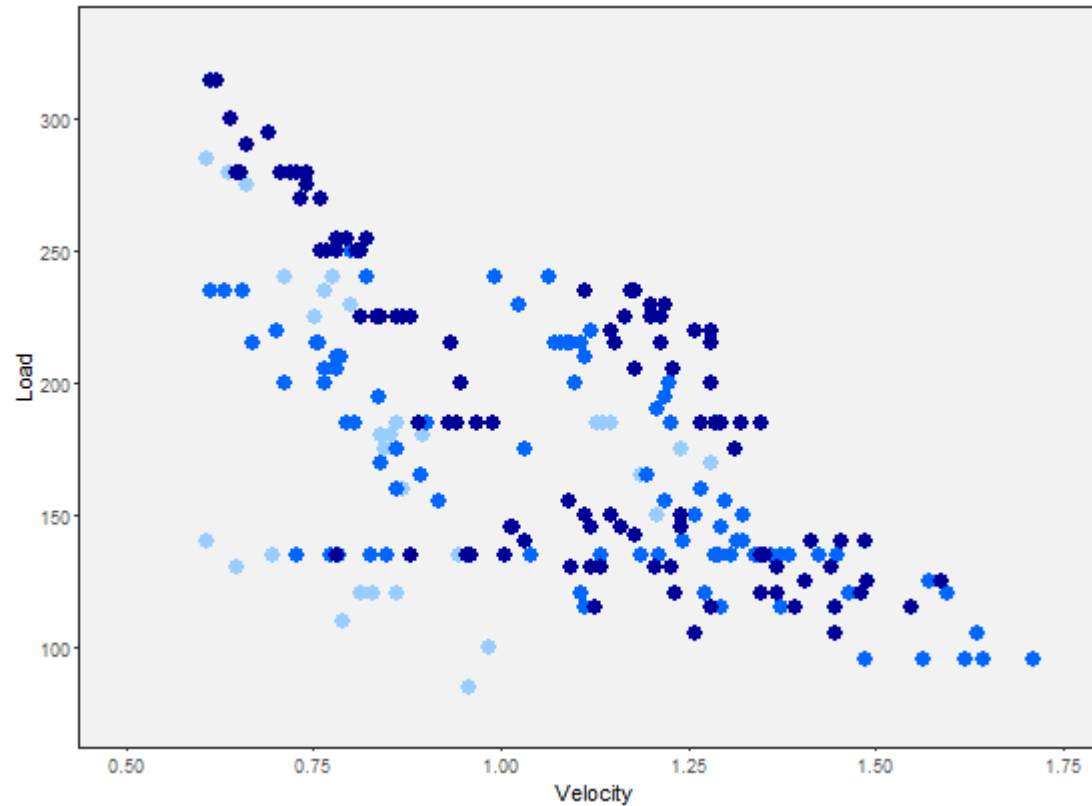


Surfing with Strength

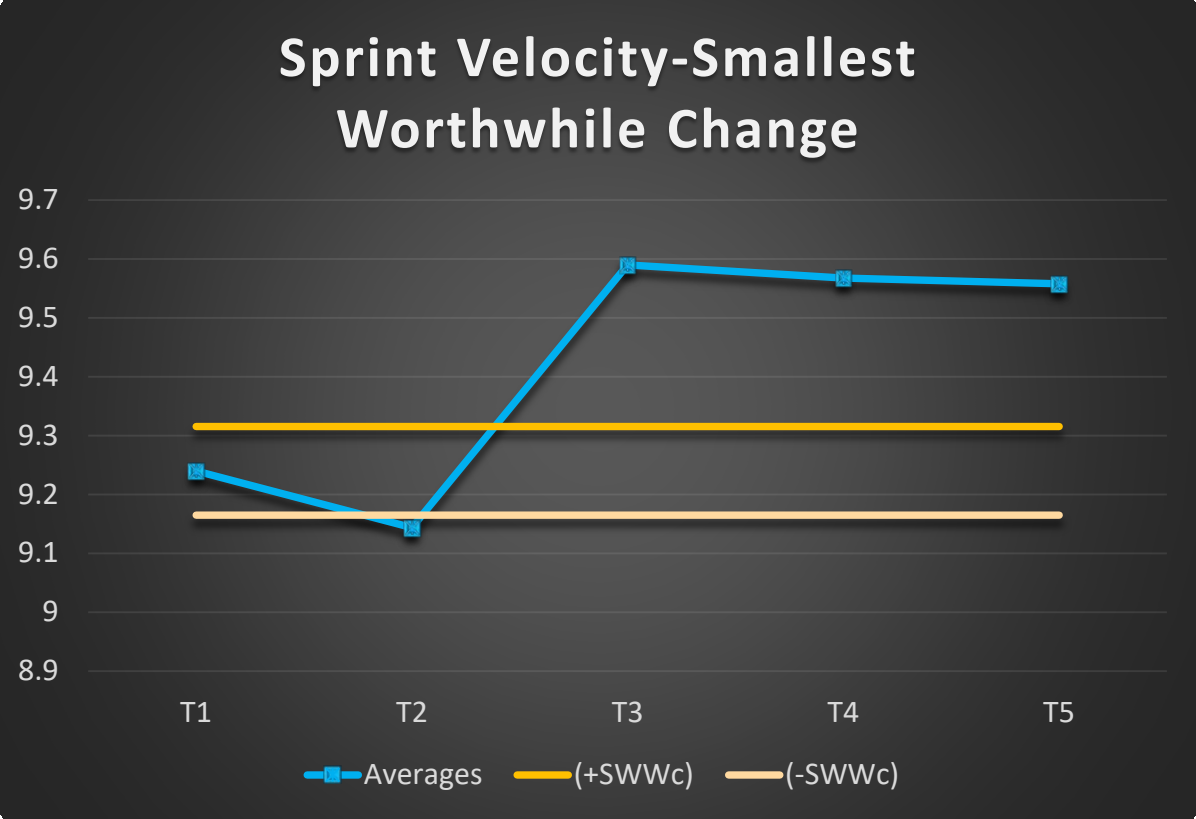
Block II

Block III

Block IV



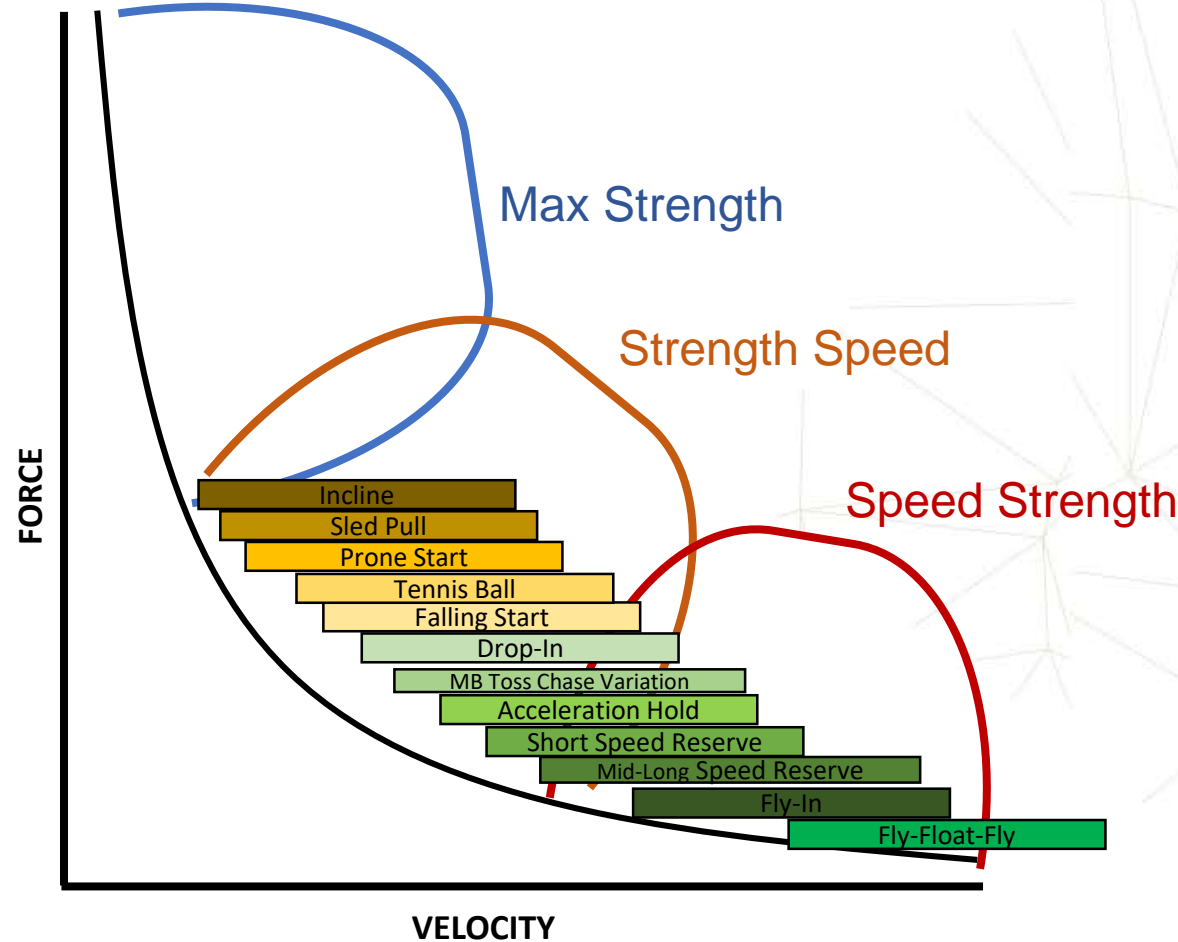
Transfer



	T1 Baseline	T2	T3	T4	T5	T5-T1 % Change
Mean Velocity (m/s)	9.24m/s	9.14m/s	9.59m/s	9.56m/s	9.55m/s	(+3.35%)
Terminal Velocity (m/s)	9.41m/s	9.27m/s	9.9m/s	9.81m/s	9.72m/s	(+3.29%)
Mean GCT (s)	0.0976s	0.0970s	0.0963s	0.0977s	0.0975s	(-0.61%)
Terminal GCT (s)	0.0960s	0.0960s	0.0900s	0.0940s	0.0940s	(-2.08%)
Mean Isometric Peak Force (N)	3104.70	3124.41	3137.76	3613.75	DNP	(+16.39%)
Isometric Peak Force (N)	3215.49	3222.81	3153.49	3685.67	DNP	(+14.6%)

Surfing is Global Exposure

MAX STRENGTH Squat Press Bench Press Mid-Thigh Pull Clean/Snatch Pull
STRENGTH-SPEED Push Press Push Jerk Mid-Thigh Pull Mid-Thigh Clean/Snatch Power Clean
SPEED-STRENGTH Countermovement Shrug Countermovement Clean/Snatch Multi-jumps Throws



Incline
Sled Pull
Prone Start
Tennis Ball
Falling Start
Drop-In
MB Toss Chase Variation
Accel Hold
Short Speed Reserve
Mid - Long Speed Reserve
Fly-In
Fly-Float-Fly

Practical

- Experience a variety of sprint training tactics and drills covered within this presentation;
- Go through a progression of multi-throws and jumps that compliment phases of sprint development;
- Review the weightlifting derivatives that can enhance power output across the spectrum.

