

Combined Events Training
Blueprint Schemes
Planning and Periodization:
Autumn Cycles



Dan A. Pfaff

Altis

Phoenix, AZ

CURRENT ROLES

- Audit coaches and performance staff at institutions of high performance, globally.



- Mentor performance staff members on multiple facets of sport excellence.



- Gate keeper duties and enforcement driver for action points agreed upon by key stake holders.



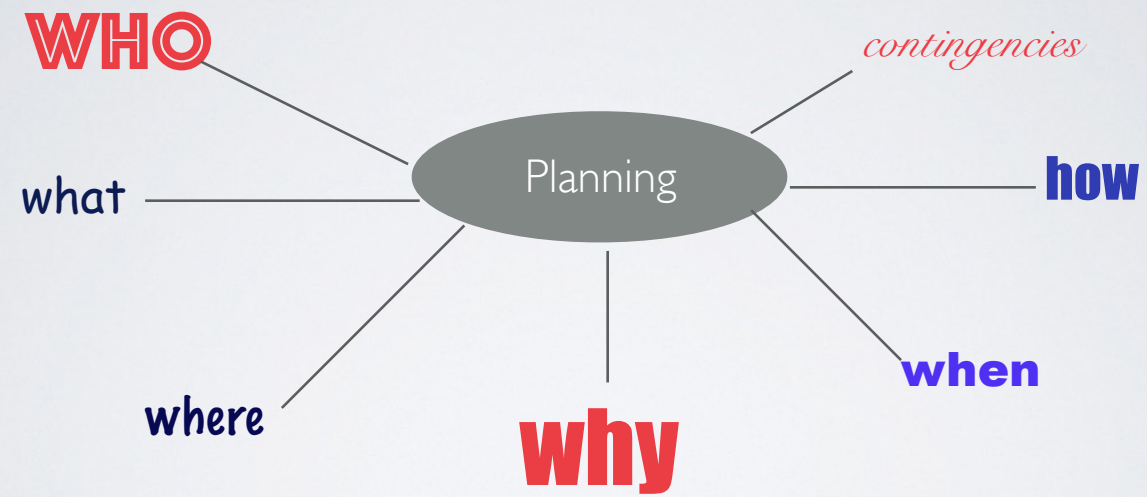
KPI'S, A DOUBLE EDGE SWORD

Key Performance Indicators

Key Performance Inhibitors



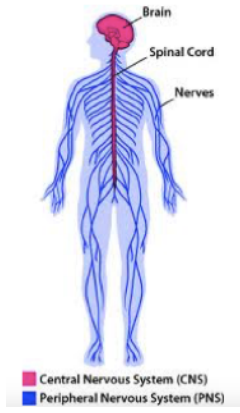
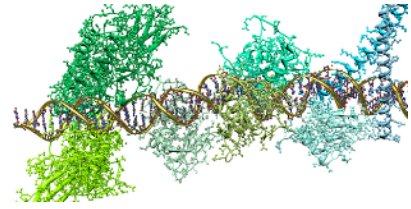
THE CONUNDRUM OF PLANNING



HOW WE COACH AND PLAN

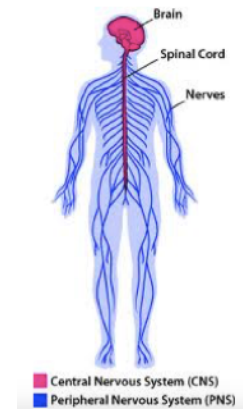
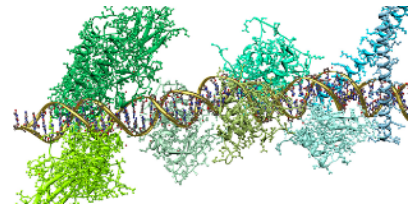


Global Biology Influences on Speed Development



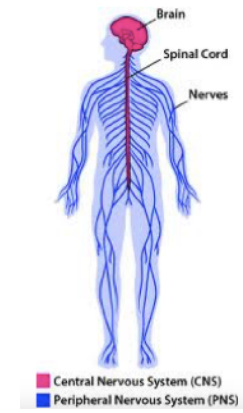
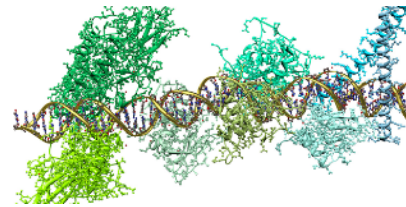
Global Biology Influences on Speed Development

- CNS and Peripheral development and pathways



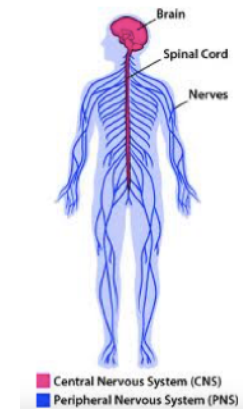
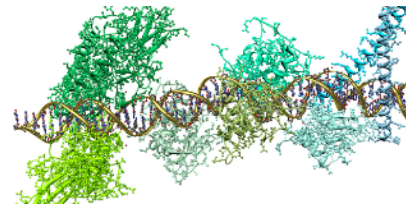
Global Biology Influences on Speed Development

- CNS and Peripheral development and pathways
- Biochemistry capacities (metabolic and catabolic)



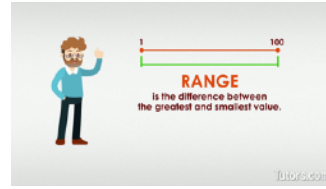
Global Biology Influences on Speed Development

- CNS and Peripheral development and pathways
- Biochemistry capacities (metabolic and catabolic)
- Architectural Integrity and Wellness



Programming Insights

- Ranges
- Percentages
- Contingencies



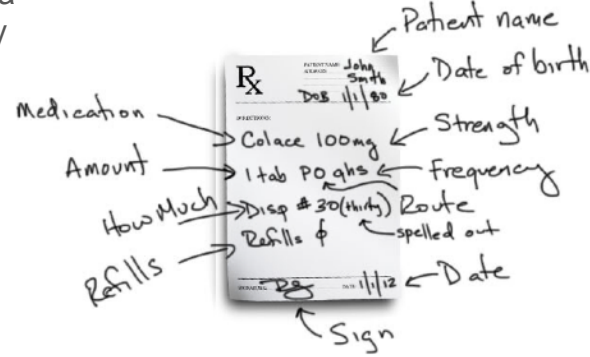
Through networks and extensive library searches, I compiled actual training plans from Scandinavia, Russia, DDR, Italy, France, FRG, Cuba, North American camps, Caribbean outlier programs, etc over a 5 year period in the early 70s. I did this for all power and speed events in our sport. I was driven to find big rocks that had huge cost/benefit effects on development and long career life.

Dosages

Sting not Destroy

The optimal dosage is the dosage that gives the desired effect with **minimum side effects**.

"X," in some circumstances two times "x" or three times "x" or even more at a given time will consequently cycle, etc.



GENERATIONAL CLASSIFICATION SCHEMES



GENERATIONAL EXAMPLE: POLE VAULT

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Ist: Competition Length Jumps

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1st: Competition Length Jumps

2nd: Various shorter run jumps and event specific exercises

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3rd: Acceleration, Speed and Jumps exercises

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3rd: Acceleration, Speed and Jumps exercises

4th: Weight Training, Plyometrics, Throwing, Gymnastics,
Aerobic Runs, Wellness Exercises

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A lactic Runs, Wellness Exercises

*note: very little general or 5th generation work

ERGONOMICS OF COMBINED EVENT SCORING TABLES

- Biased to power/speed
- Evaluate cost/benefit factors for the one endurance event compared to the other events
- Many methods to train anaerobic glycolysis

GENERAL THOUGHTS ON PLANNING

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- More **integrated and unified**

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- **Generational** considerations in all designs
- Template designs with **prescriptive implementation**
- Power/Speed sports have lots of **commonalities**
- **Wellness factors** have become more prevalent

SPECTRUMS

Most paradigms and concepts are more spectral than absolute. I struggle with absolutists.



ONE NEEDS TO START
SOMEWHERE



BOXTICKING DISEASE



Versus



MONITORING: FIELD SYSTEMS



MONITORING: FIELD SYSTEMS

Posture
Body Language



MONITORING: FIELD SYSTEMS

Posture
Body Language
Rhythm



MONITORING: FIELD SYSTEMS

Posture
Body Language
Rhythm
Coordination



MONITORING: FIELD SYSTEMS

Posture
Body Language
Rhythm
Coordination
Feedback and tone of voice



MONITORING: FIELD SYSTEMS

Posture
Body Language
Rhythm
Coordination
Feedback and tone of voice
Perceived Exertion



MONITORING: FIELD SYSTEMS

Posture
Body Language
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Perceived Exertion



MONITORING: FIELD SYSTEMS

Posture
Body Language
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Coordination
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***Evaluated against normative maps!



A GENERALIZED OVERVIEW OF ALL SEASON
TRAINING SESSIONS

A GENERALIZED OVERVIEW OF ALL SEASON TRAINING SESSIONS

- A Warm-up Scheme

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- Prescribed Therapies and Rehab

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- Prescribed Therapies and Rehab
- Fascial Homework Series and Hydrotherapy

THE WARM-UP

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- Specific to tasks and demands of that day

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- Warming, attentional and vibrational activities

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- Static flexibility and Fascial work

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- Sprint awareness exercises

THE WARM-UP

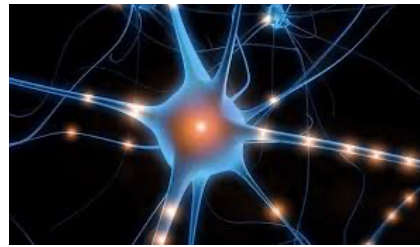
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THE WARM-UP

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- Dynamic flexibility work
- Acceleration progressions

Rest Intervals

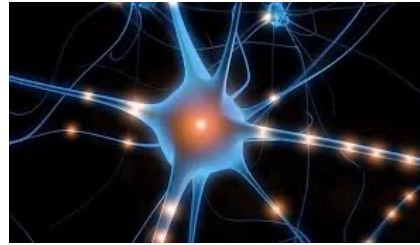
The Most Understudied Variable in Sprint Training



Rest Intervals

The Most Understudied Variable in Sprint Training

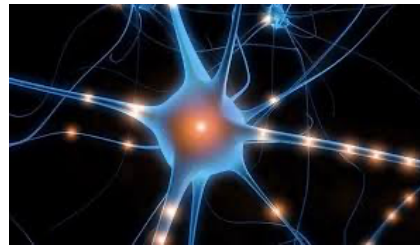
- circulating growth hormone



Rest Intervals

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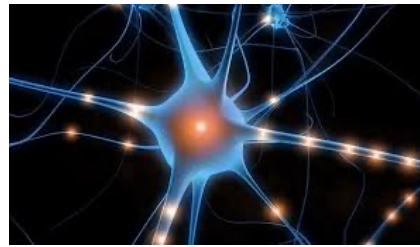
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- elevation of other hormones
- elevate protein synthesis



Rest Intervals

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- circulating growth hormone
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- protein turnover



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- elevation of other hormones
- elevate protein synthesis
- protein turnover
- repair, regulation of various metabolic functions



Rest Intervals

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- circulating growth hormone
- cortisol levels
- intensity-associated acidosis
- elevation of other hormones
- elevate protein synthesis
- protein turnover
- repair, regulation of various metabolic functions
- elevated levels of circulating microRNA



Rest Intervals

The Most Understudied Variable in Sprint Training

- circulating growth hormone
- cortisol levels
- intensity-associated acidosis
- elevation of other hormones
- elevate protein synthesis
- protein turnover
- repair, regulation of various metabolic functions
- elevated levels of circulating microRNA
- levels of circulating regulators of vascular and anabolic adaptive responses



MONDAY, AUTUMN

- Warm-up A
- Throw, Javelin, MB series, Weighted balls
- Acceleration Development (10-40m, with sets of 3 or 4 x 3-5 efforts in each set) use 1' and 3' recoveries; use blocks, group starts, rollovers or fly-ins... emphasize mechanics, rhythm and relaxation.....can add one to two special speed endurance runs with 5' recoveries
- Multiple Jump Series: 5 x 5 hurdles at 33" and 2m spacing; dynamic or static to needs or Multiple Throw series: "Grenade" x 5 reps (OHB, BLF, repeat with one jump before launch) Use heavy implement! R=2+
- Wt. Training: Olympic lifts, Presses, and Leg Series; Ancillary lifts: Russian Twists and Negative Toe Risers, stabilization loads
- Cool Down with 5' of jog/skip routines
- Fascial and target therapies only
- Hydrotherapy Session, 15'

ACCELERATION



ACCELERATION



KPI'S FOR ACCELERATION



KPI'S FOR ACCELERATION

- Spinal and Hip Engines



KPI'S FOR ACCELERATION

- Spinal and Hip Engines
- Joint and Muscle Order



KPI'S FOR ACCELERATION

- Spinal and Hip Engines
- Joint and Muscle Order
- Projection Angles and Force Application



KPI'S FOR ACCELERATION

- Spinal and Hip Engines
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- Stride Rate of Change



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- Total Body Axis to Ground Angles



KPI'S FOR ACCELERATION

- Spinal and Hip Engines
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- Appendage Positions and Transitions



KPI'S FOR ACCELERATION

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- Appendage Positions and Transitions
- Ground Contact, Amortization and Flight Times

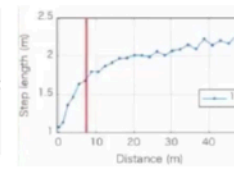
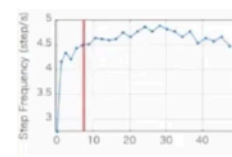
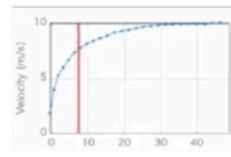
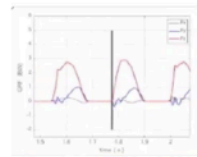


Stride Length, Frequency and Resultant Velocity Curve

Stance phase



Aerial phase



Masamichi Okudaira



Hurdle Hops, Freeze Series



Hurdle Hops, Freeze Series

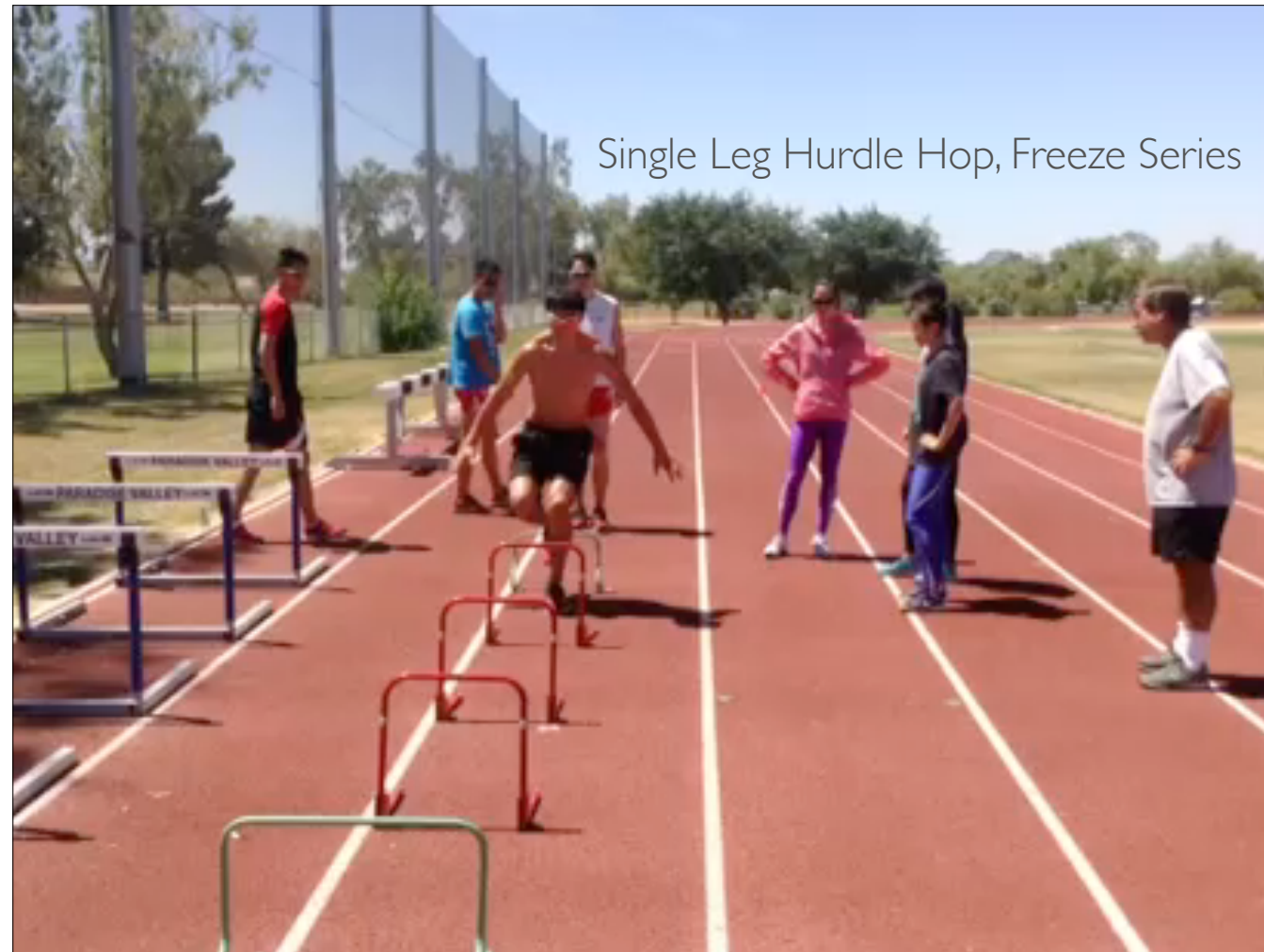
Freeze Series, frontal view



Freeze Series, frontal view



Single Leg Hurdle Hop, Freeze Series



Single Leg Hurdle Hop, Freeze Series





One hop, between leg forward throw



One hop, between leg forward throw



One hop, OHT
One Hop , OHB throw



One hop, OHT
One Hop , OHB throw

LEG SERIES LIFTS

Why, when, frequency, knock on effects?



LEG SERIES LIFTS

- Low Box Step-up PLUS

Why, when, frequency, knock on effects?



LEG SERIES LIFTS

- Low Box Step-up PLUS
- High Box Step-up with POP

Why, when, frequency, knock on effects?



LEG SERIES LIFTS

- Low Box Step-up PLUS
- High Box Step-up with POP
- Deadlift

Why, when, frequency, knock on effects?



LEG SERIES LIFTS

- Low Box Step-up PLUS
- High Box Step-up with POP
- Deadlift
- Push Press

Why, when, frequency, knock on effects?



LEG SERIES LIFTS

- Low Box Step-up PLUS
- High Box Step-up with POP
- Deadlift
- Push Press
- Jerks

Why, when, frequency, knock on effects?



LEG SERIES LIFTS

- Low Box Step-up PLUS
- High Box Step-up with POP
- Deadlift
- Push Press
- Jerks
- Split Drops

Why, when, frequency, knock on effects?



LEG SERIES LIFTS

- Low Box Step-up PLUS
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- Deadlift
- Push Press
- Jerks
- Split Drops
- Jump Squats

Why, when, frequency, knock on effects?



LEG SERIES LIFTS

- Low Box Step-up PLUS
- High Box Step-up with POP
- Deadlift
- Push Press
- Jerks
- Split Drops
- Jump Squats
- Lunge Jumps

Why, when, frequency, knock on effects?



LEG SERIES LIFTS

- Low Box Step-up PLUS
- High Box Step-up with POP
- Deadlift
- Push Press
- Jerks
- Split Drops
- Jump Squats
- Lunge Jumps
- Lateral Squats with active push

Why, when, frequency, knock on effects?





Hurdle Hops, Dynamic



Hurdle Hops, Dynamic

TUESDAY, AUTUMN

- Warm-up B
- Throw, Shot Put, Drills and Progressions
- Jump Specific Technical Training or
 - Technical Runs on Grass or in Flats; 6-8 runs x 50m with dribble, scissor or elastic over cues for 25m and runoffs for 25m;
 - if a jump session is scheduled, then approaches x 4-6 and then 10-12 short run jumps instead of tech runs
- General Strength Series
- Medicine Ball Series
- Hurdle Mobility Series
- Therapy upon target schemes
- Cool down with multidirectional series for 5'



Scissor Bound Bleed to Run



Scissor Bound Bleed to Run

Dribble Bleeds



Dribble Bleeds



WEDNESDAY, AUTUMN

- Warm-up C
- Throw, Discus, Progressions and Drills
- Speed or Special Speed Endurance Runs; 2-3sets x 3 runs x 40-50m with 2' and 8' recoveries
- Alternative Workout Options: Alactic Runs of 3 X 150, or 3 x120 or 3 x 90m with 5'-7'; can be done with SFS motif
- Elastic Endurance Series: Skips for height and distance, scissor bounds, alternate leg bounds, etc. total 500m workloads
- Wt. Training. As on Monday with variations: a load day
- Mixed Cool Down Rhythms
- Deep Tissue session
- Mixed Hydrotherapy Session, 2 hot, 1 cold

TOP END SPEED MECHANICS



TOP END SPEED MECHANICS

Posture



TOP END SPEED MECHANICS

Posture

Strike Landmarks for the Foot



TOP END SPEED MECHANICS

Posture

Strike Landmarks for the Foot

Arm Positions and Angulation Factors



TOP END SPEED MECHANICS

Posture

Strike Landmarks for the Foot

Arm Positions and Angulation Factors

Leg Angulation Factors



TOP END SPEED MECHANICS

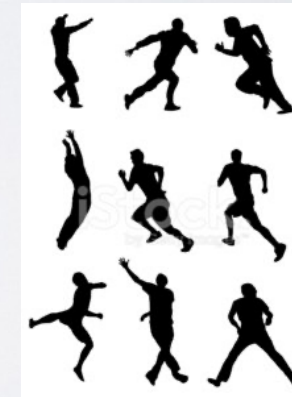
Posture

Strike Landmarks for the Foot

Arm Positions and Angulation Factors

Leg Angulation Factors

Dorsiflexion Paradigm



TOP END SPEED MECHANICS

Posture

Strike Landmarks for the Foot

Arm Positions and Angulation Factors

Leg Angulation Factors

Dorsiflexion Paradigm

Hip and Shoulder Axis Undulation and Oscillation



TOP END SPEED MECHANICS

Posture

Strike Landmarks for the Foot

Arm Positions and Angulation Factors

Leg Angulation Factors

Dorsiflexion Paradigm

Hip and Shoulder Axis Undulation and Oscillation

Ground Contact and Flight Times



TOP END SPEED MECHANICS

Posture

Strike Landmarks for the Foot

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Leg Angulation Factors

Dorsiflexion Paradigm

Hip and Shoulder Axis Undulation and Oscillation

Ground Contact and Flight Times

Joint Stiffness Mechanisms



TOP END SPEED MECHANICS

Posture

Strike Landmarks for the Foot

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Leg Angulation Factors

Dorsiflexion Paradigm

Hip and Shoulder Axis Undulation and Oscillation

Ground Contact and Flight Times

Joint Stiffness Mechanisms

Direction of Force Application



TOP END SPEED MECHANICS

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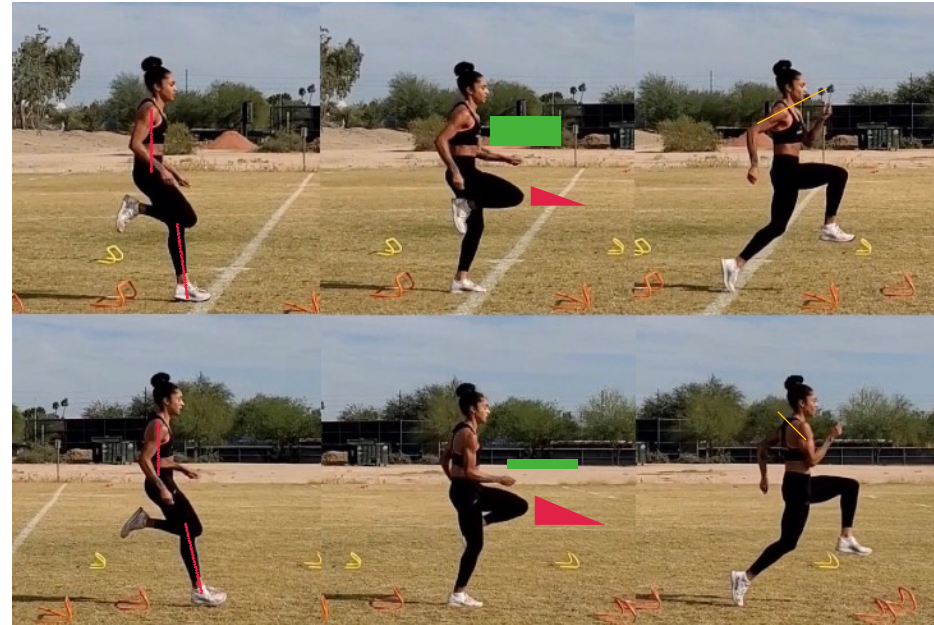
Ground Contact and Flight Times

Joint Stiffness Mechanisms

Direction of Force Application

Limb Repositioning Times and Factors





via: Stu McMillan, Altis

USAIN BOLT, THE FASTEST MAN

USAIN BOLT, THE FASTEST MAN



Skip for Height



Skip for Height



Single Leg Medial



Single Leg Medial



Single Leg Backwards



Single Leg Backwards



Single Leg Forward



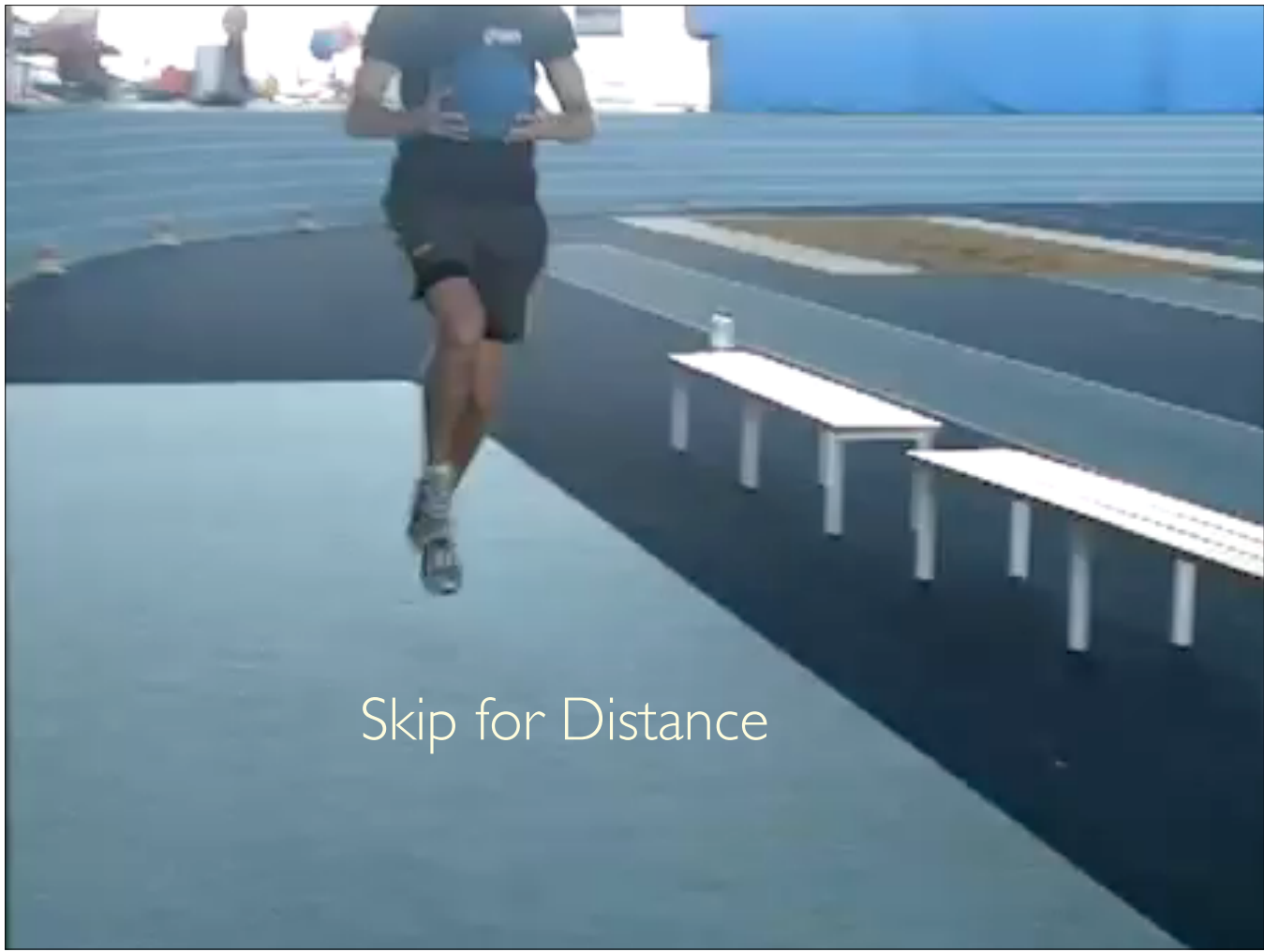
Single Leg Forward



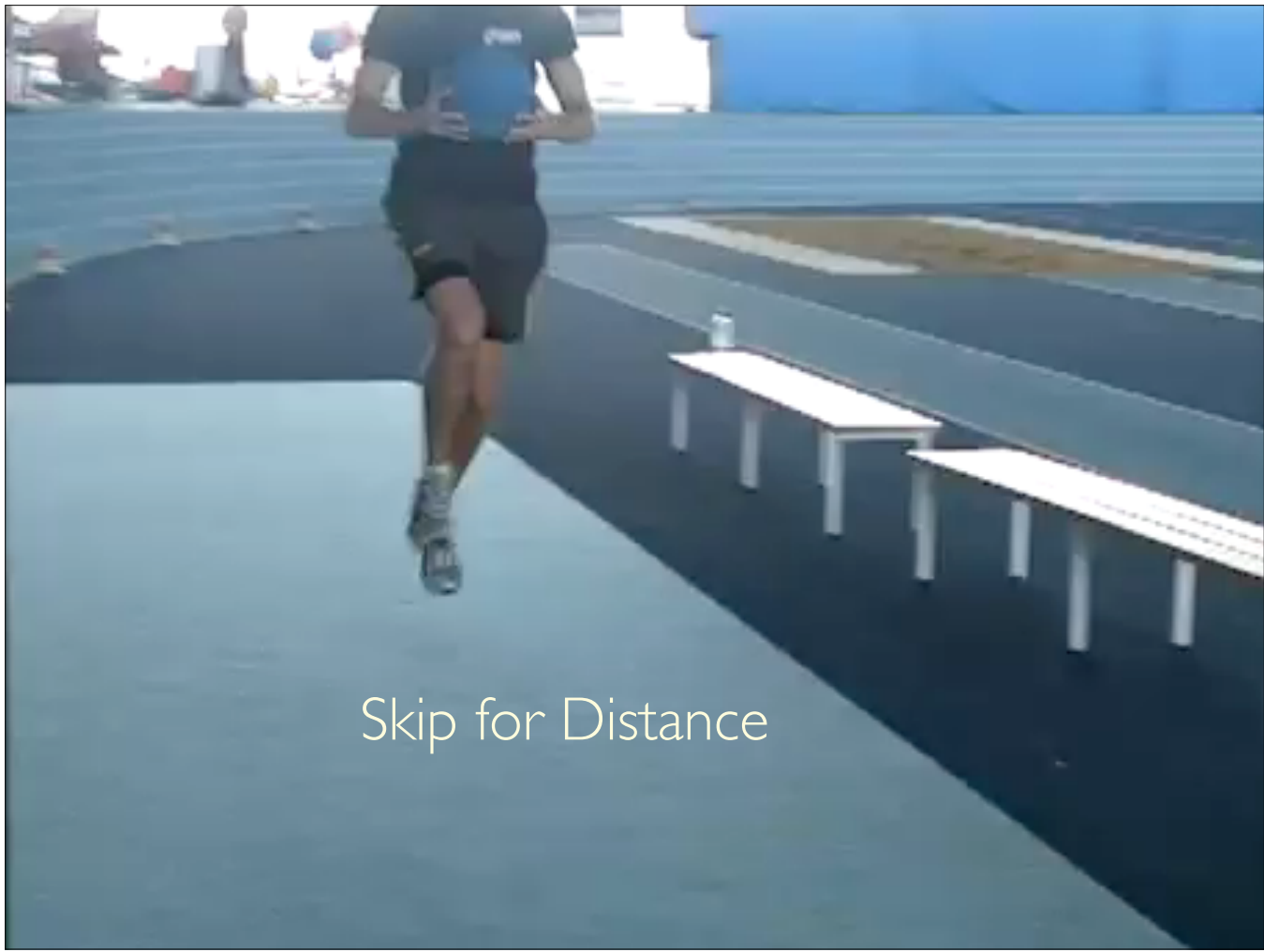
Double Leg Forward



Double Leg Forward



Skip for Distance



Skip for Distance



Double Leg Backwards



Double Leg Backwards



Left, Right combo



Left, Right combo

THURSDAY, AUTUMN

- Warm-up D
- Throws, General Multiple Ball Throwing
- Relaxed Grass Runs or limited short run jumps series or approach work
- General Strength Series
- Med Ball Series
- Hurdle Mobility Series
- Cool Down with 5' [skipping](#)
- If a rest day is needed, this is the preferred day
- Parasympathetic Massage Session

FRIDAY, AUTUMN

- Warm-up E
- Throws, SP or Discus, Progressions and Whole Sequencing
- Acceleration Development as Monday
- Multiple Throw Series or In [Place Jump Circuits](#) as prescribed to needs
R=TBA
- Wt. Training, as Monday with leg series box jump variants, axis emphasis
- Cool Down as Prescribed
- Special Therapy Prescriptions

Single Leg to
Double Leg Box
Jump



Single Leg to
Double Leg Box
Jump







Double Leg drop jump



Double Leg drop jump



Reverse Box Jump



Reverse Box Jump



SATURDAY, AUTUMN

- Warm-up A
- Speed Endurance Series; Rhythm and Mechanics
 - 10 x 90m or
 - 8 x 120 or
 - 6 x 150 all with 2'-5' recoveries, can set if needed
- Special Walks Series with heavy implement
- Hurdle Mobility Series
- Cool Down with 5' Jog/Skip/Side Shuffle
- Therapies as based on week
- Hydrotherapy Session TBA

SUNDAY

- An active rest day or complete rest day depending on reaction to the week's work or athlete tendencies.

