# Sprint Workouts

Santa Clarita Track Club

February 4, 2023

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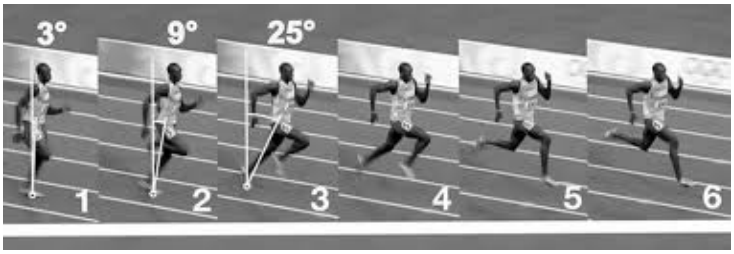
## Sprint Cues

- Posture- “Run Tall”
- Arms- “Chop Down” 160’
- Heels- “Pull Heels” tight to the buttocks
- Toe Up- Windlass Effect. Spring loads the foot
- Active Contact- Jackhammer the track pushing it back

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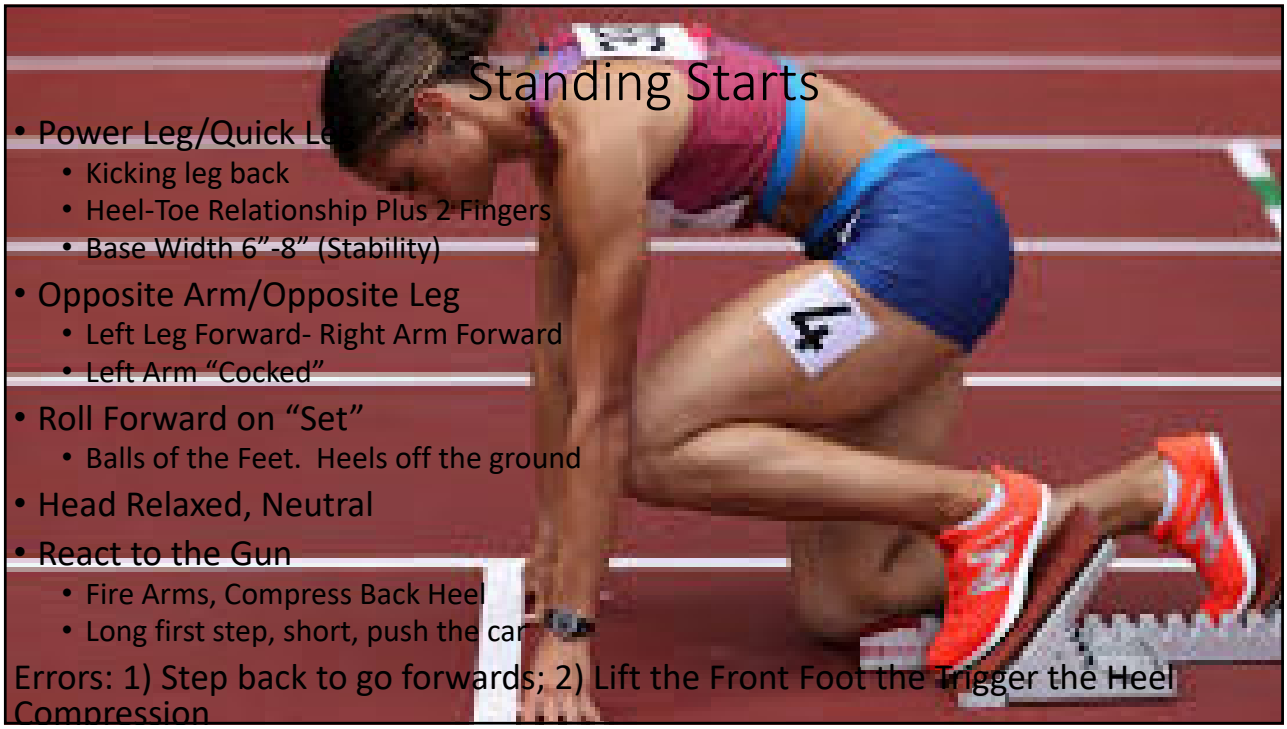

## Standing Starts

- Power Leg/Quick Le
  - Kicking leg back
  - Heel-Toe Relationship Plus 2 Fingers
  - Base Width 6”-8” (Stability)
- Opposite Arm/Opposite Leg
  - Left Leg Forward- Right Arm Forward
  - Left Arm “Cocked”
- Roll Forward on “Set”
  - Balls of the Feet. Heels off the ground
- Head Relaxed, Neutral
- React to the Gun
  - Fire Arms, Compress Back Heel
  - Long first step, short, push the car

Errors: 1) Step back to go forwards; 2) Lift the Front Foot the Trigger the Heel Compression

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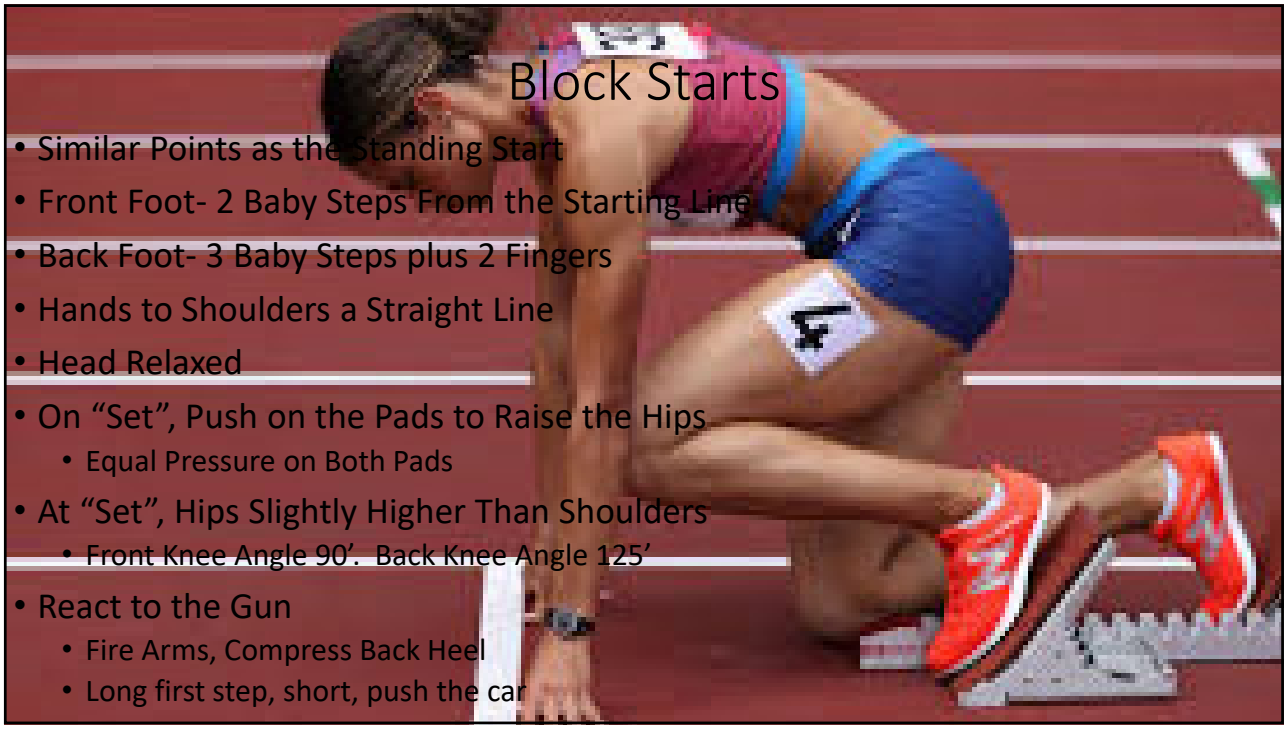

## Block Starts

- Similar Points as the Standing Start
- Front Foot- 2 Baby Steps From the Starting Line
- Back Foot- 3 Baby Steps plus 2 Fingers
- Hands to Shoulders a Straight Line
- Head Relaxed
- On “Set”, Push on the Pads to Raise the Hips
  - Equal Pressure on Both Pads
- At “Set”, Hips Slightly Higher Than Shoulders
  - Front Knee Angle 90’. Back Knee Angle 125’
- React to the Gun
  - Fire Arms, Compress Back Heel
  - Long first step, short, push the car

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# Boom

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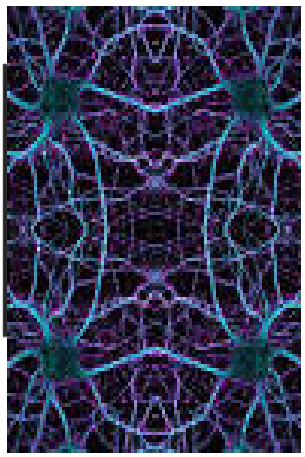
# The Physiology of Sprinting

The Central Nervous System (CNS) governs the nervous and muscular system response to rapid, explosive movement (demands)

Speed Development Training, High Resistance Strength Training (HRST), and Plyometric Exercises result in <u>NEUROLOGICAL ADAPTATIONS</u>

- "A muscle is only as strong as the signal sent to it"
- Corollary: "Only as it sees the movement as safe". Joel Smith

Progressive Training Plan includes adaptation, individuality and recovery



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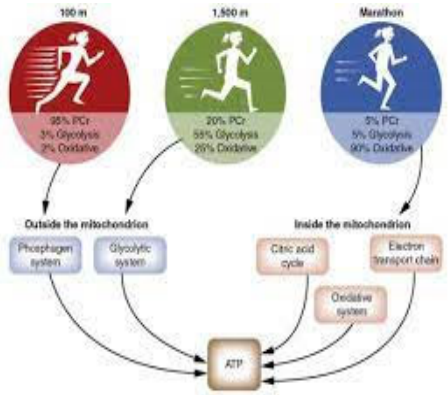
# The Physiology of Sprinting

- Anaerobic- Energy Produced Without Oxygen.
  - The Kreps Cycle can't meet the energy demands of the event. (100-400m).
  - ATP is burned for energy. Quickly, ATP can't be recombined to meet the energy demands
- Creatine Phosphate- Fight of Flight response.
  - CP explosively burns and reforms into ATP.
  - 7 seconds of energy
- Lactic Acid System (Glycolysis).
  - Glucose (sugar) is broken down to form a new ATP molecule. It attaches to the ADP molecule to reform ATP.
  - 15-45 seconds of energy
  - By product Lactic Acid. Body can't clear the build up.
  - Lactate Threshold Training. Raises the body's tolerance and allows for continued high exertion.

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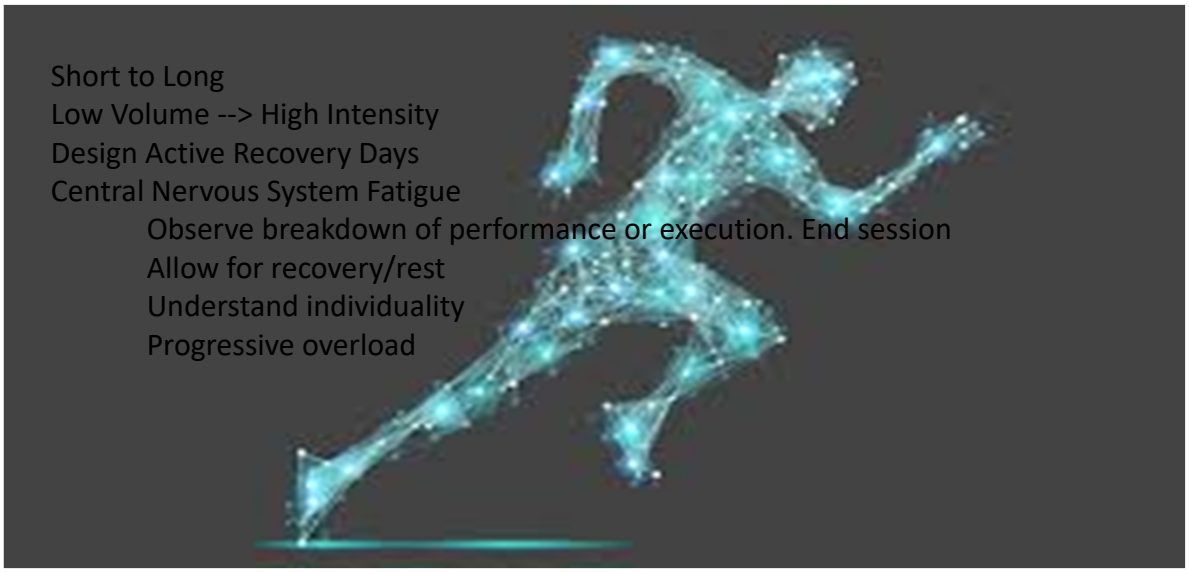
# Principles of Training



Short to Long
Low Volume --> High Intensity
Design Active Recovery Days
Central Nervous System Fatigue
Observe breakdown of performance or execution. End session
Allow for recovery/rest
Understand individuality
Progressive overload

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# Sprint Workouts

- Starts- all season (End of February, First Week of March)
- Fly-Ins- all season. 15-50m
  - All Phases
- 7 x 100/Walk Back 50 or 7 x 150/Walk Back 100 (1 Lap)
  - Early to mid season = conditioning
- Hill Charges (30-100m) Phases 1-3
  - Phases 1-3. Maintain excellent sprint form
- 150 to 300m Repetitions (90% max) Phases 2-3
  - Full Recovery. 450-1200m max work
- Ladders- Phases 2-4
  - 40-60-75
  - 100-150-200-250
- "Stacks". Phases 2-4
  - Total Race Distance in Sets of 2-3. 300 to 1200m Total Workout
  - Controlled Recovery (:90 to 2:00). At 90-100% of Race Pace
  - 400 Runner: 100-150-150-50 or 250-100-100 or 50-100-50
  - Full Recovery Between Sets (5-8 minutes)

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