

Run Mechanics

Run efficient, run far.



CAROLINA
MULTISPORTS

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RUN GAIT PHASES

Let's break it down.

RUN MECHANICS

Understand correct posture and form.

RUN METRICS

You can't improve what you don't measure.

RUN DRILLS

Perfect practice makes perfect.

TRAINING CONSIDERATIONS

Train at the correct intensities.

Run Gait Phases

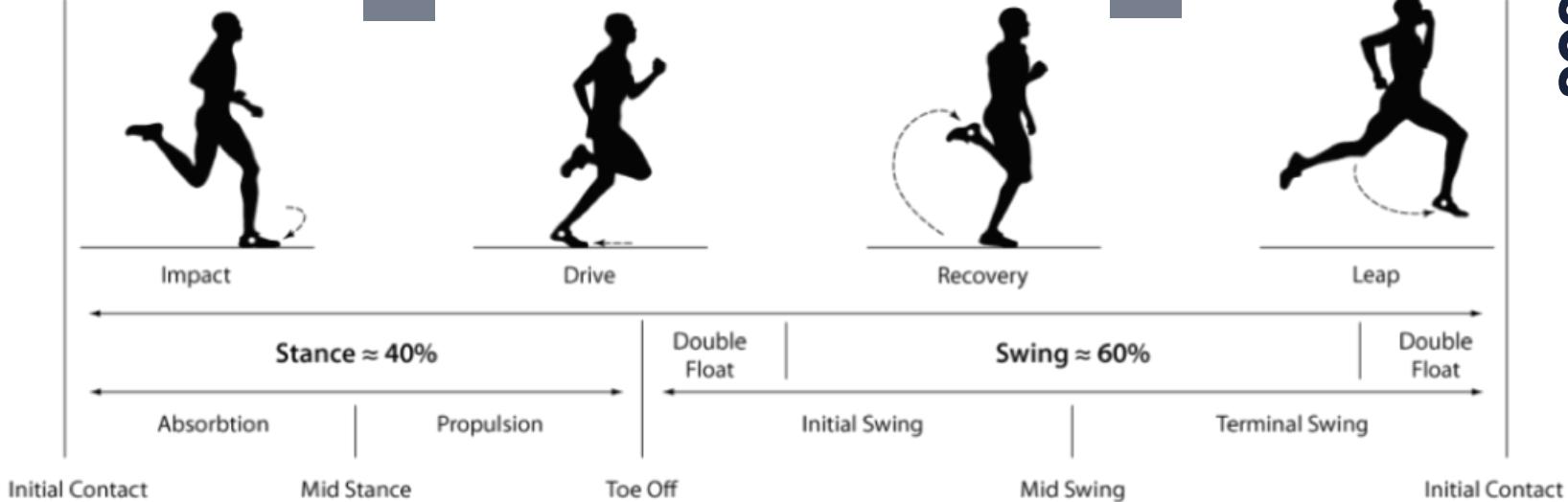
01

DRIVE

- Stacked, stable spine
- Forward lean up to 10° .
- Eyes on the horizon.

FLIGHT

- Lead with knee.
- Elbows back.



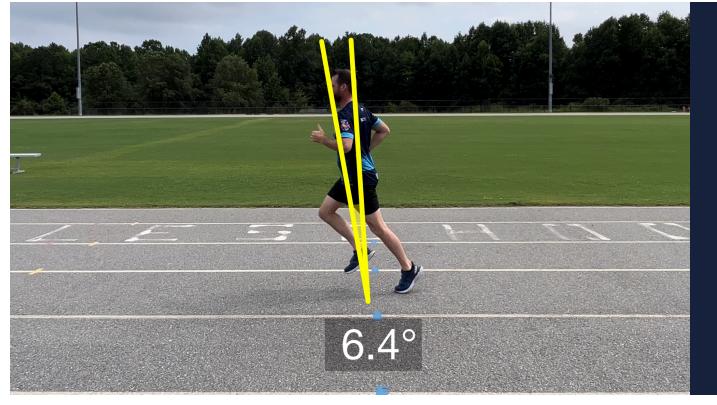
Impact

- Mid foot strike
- Body position is determined by foot strike.

RECOVERY

- High foot.

RUN MECHANICS



FORWARD LEAN

- Lean from the ankles, not the hips.
- Should be between 5-10°.

VERTICAL OSCILLATION

- Should be lower than 10 cm.
- Use energy to create forward thrust, not upward thrust. Don't fight against gravity.

02

RUN MECHANICS



TORSO MOVEMENT

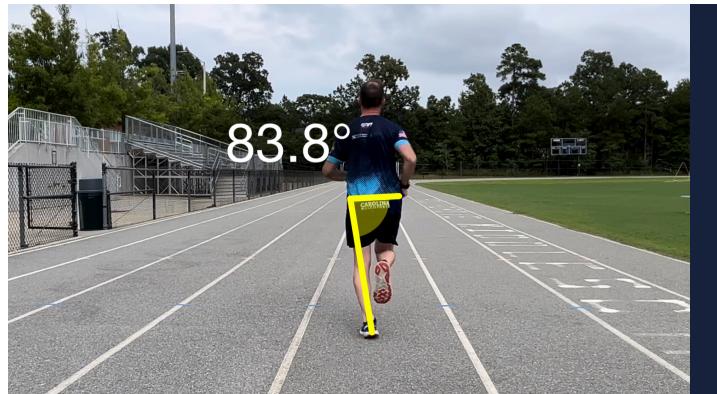
- Head should be on top of shoulder.
- Eyes on the horizon.
- Don't crowd or cross midline with hands or feet.

ARM SWING

- Arms should be tight to the body,
- Elbows back. Imagine pulling a gun from a holster.

02

RUN MECHANICS



HIP EXTENSION

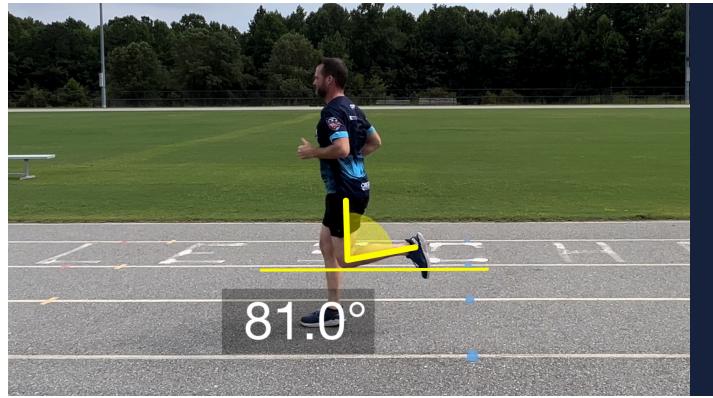
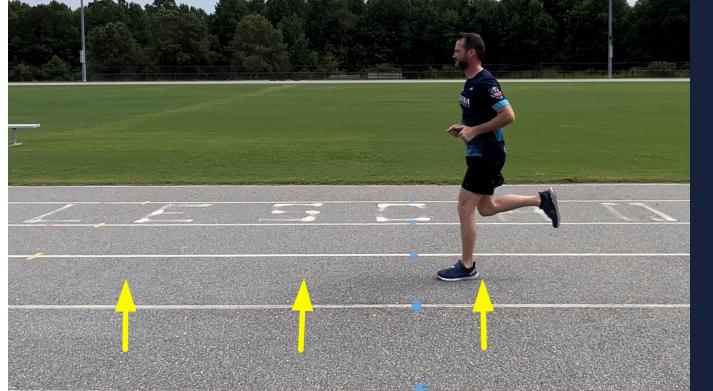
- Power comes from the hips.

HIP STABILITY

- Dropping hip is indicative of weak sagittal plane.

02

RUN MECHANICS



DISTANCE PER STRIDE

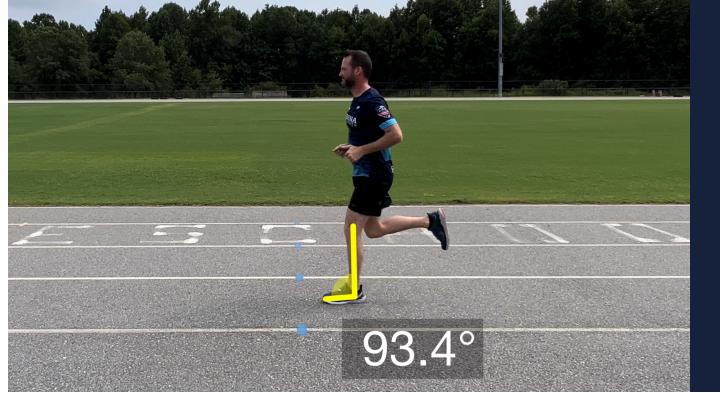
- Overstriding creates a braking force.
- The higher your cadence the shorter your stride length will be..

KNEE RECOVERY

- This shortens the lever to reduce energy consumption.

02

RUN MECHANICS



FOOT PLACEMENT

- Strike at the mid-foot with leg directly over ankle.
- Heel striking creates a braking force.
- Over pronation or supination can cause problems.

02

RUNNING METRICS



PACE

- Intensity of workout based time and distance.



HEART RATE

- Metabolic measure of how hard you're working.
 - Individualized.
- Lower heart rates are aerobic, higher heart rates are anaerobic.



CADENCE

- Steps per min. (SPM) of running stride.
- Optimum spm should be above 175.



STRIDE LENGTH

- Distance traveled per step.



GROUND CONTACT TIME

- Ground contact time of each foot per step.



VERTICAL OSCILATION

- Distance traveled vertically fighting against gravity.

03

Running Drills

Resets

Marching Cross Crawls
Elevated rolls
Dead Bugs
Bird Dogs

Frontal Plane

Marching Cross Crawls
A, B, C skips
Orange Crushes
Backwards skips
Skips for distance

Power Application

Ankling
Pogo
Toe Springs
Half High Knees-Orange Crushes

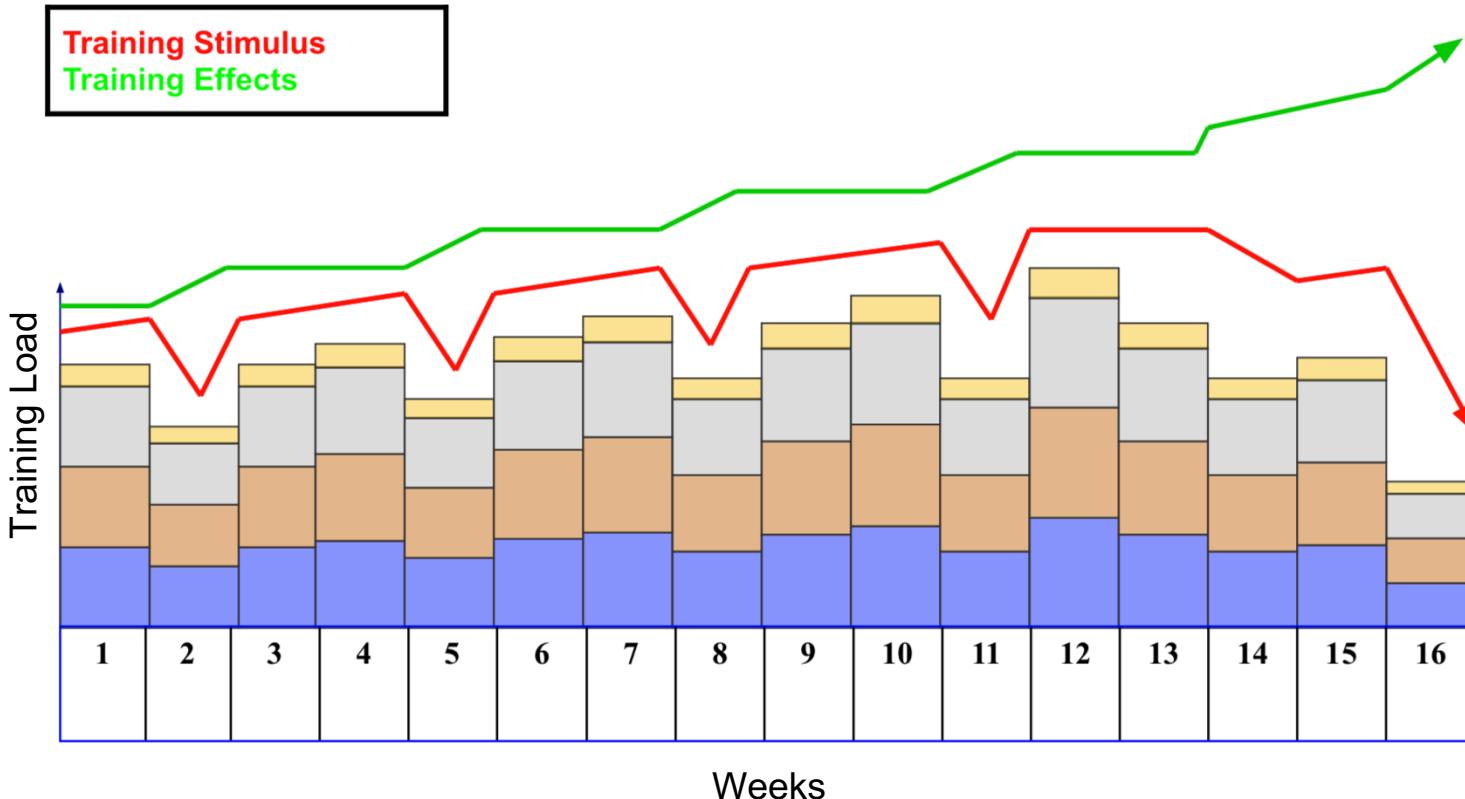
Sagittal Plane

Karaoke
Karaoke with cross crawls
Shuffling
Monster Walks

04

Training Considerations

05



THANKS

Does anyone have any questions?

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