

Importance of Running Mechanics to Increase Speed & Agility

Speed: The rate at which somebody/something moves or travels

Agility: The ability to move quickly and easily

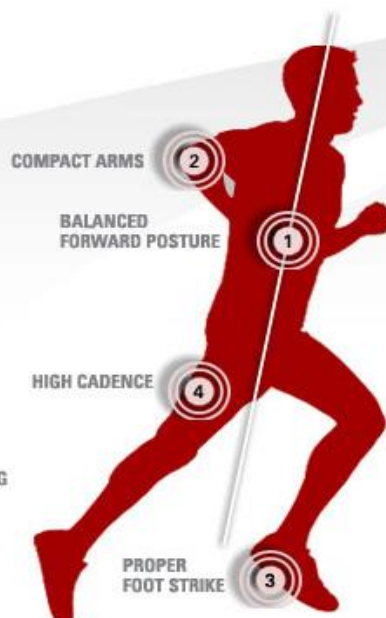
As many as 79% of all runners will sustain a running-related injury during any given year.

Running biomechanics play a key role in injury.

FAMILIAR RUNNING FORM



GOOD RUNNING FORM



1 BALANCED FORWARD POSTURE
• Stand tall, gaze forward
• Keep chest forward and shoulders back and relaxed
• Don't bend at the waist

2 COMPACT ARMS
• Short, compact, relaxed arm movement
• Pump back and recover forward, don't sway side to side
• Elbows should not extend in front of the waist unless sprinting

3 PROPER FOOT STRIKE
• Land softly underneath a bent knee
• Avoid overstriding and excessive heel striking

4 HIGH CADENCE
• Maintain approximately 170-180 steps per minute
• Count 30 steps per leg in 20 seconds for a 180 cadence
• Light, soft & quick foot placement

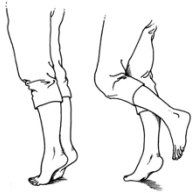
Exercises to Help Improve Running Mechanics

Single Leg Squat

Importance:

- Strengthens glute medius and TFL
- Develops coordination and balance
- Develops skills to apply torque for stability

Perform: 3 sets of 10 reps



Eccentric Calf Raises

Importance:

Helps create better forward upper torso position

Helps eliminate below the knee soft tissue injuries

Perform: 3 sets of 8 reps with 4 second count

Two-Joint Hip Flexor Stretch

Importance:

- A run-specific stretch that helps target hip flexors and upper quads
- Helps create better extension and running cadence

Perform: 3 sets of 30 seconds



Hill Bounding

Importance:

Helps build better running mechanics

Focuses on vertical bounce with long strides

“Long strides and low cadence”

Perform: 3 sets of 5 hills

Lateral Lunges

Importance:

- Works on adductor muscles on inner thigh, quads, and glutes
- Develops better range of motion and balance

Perform: 3 sets of 10 reps



Rotational Core Exercises

Importance:

More important as functional exercise

Adds rotational component

Perform: 2 sets of 20 reps

Dynamic Exercises for a Proper Warm-Up

Dynamic warmup gets muscles and joints loose before a workout.

Static stretching elongates the muscle, pushing it pass the point it wants to go and should be performed after a workout.

Knee Hug

Purpose:

- Loosens up glutes, hamstrings, quads, ankles, and feet
- Improves range of motion of hip flexors and hamstrings

Perform: 20 yards x 2



Elbow Snaps

Purpose:

- Loosens up glutes, hamstrings, quads, ankles, and feet
- Improves range of motion of hip flexors and hamstrings
- Adds rotation movement

Perform: 20 yards x 2

Hand Kick

Purpose:

- Loosens up glutes, hamstrings, quads, ankles, and feet
- Improves range of motion of hip flexors and hamstrings
- Promotes tight core
- Perform: 20 yards x 2

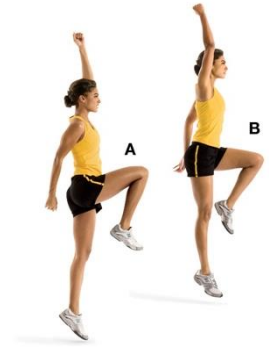


Skip for Height

Purpose:

- Enforces powerful push-off to help build stronger lower legs
- Develops great knee lift
- Develops skill to use elastic energy in muscles and tendons
- Prevents leg collapse by strengthening glutes, hamstrings, quads, and knees
- Better body balance, coordination, and agility for efficient running

Perform: 20 yards x 2



High Knees

Purpose:

Helps develop strength and endurance in hip flexors and quads

Helps generate more power and lengthen stride

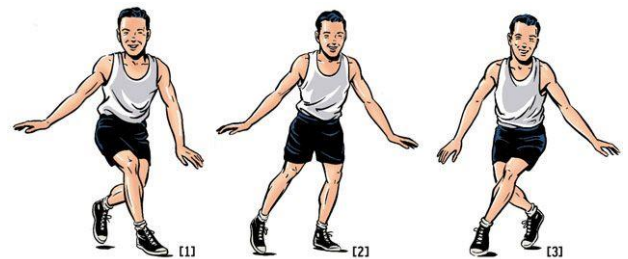
Perform: 20 yards x 2

Grapevine/Carioca

Purpose:

- Helps with hip mobility and foot work
- Stretches and loosens muscles in hips, groin, and abdominals
- Improves balance and coordination
- Adds rotational component

Perform: 20 yards x 2



Butt Kicks

Purpose:

Helps strengthen hamstrings by kicking quickly with force

Builds proper running mechanics

Perform: 20 yards x 2