Efficient Running Clinic

by Raise the Bar, fueled by PowerBar

Presenter: Alissa Anderson, USAT coach and AAFA CPT

The three P’s

My goal for you today when you leave here is that you will understand the importance of proper posture, proper foot placement, and intentional practice in becoming a more efficient runner.

Posture

Placement (of the foot)

Practice

Your mom was right! Stand up straight; don’t slouch.

Good posture is so important in every sport and is a HUGE part of running efficiently.

Proper Posture:

Feet-straight ahead

Knees-fist width apart, inline with feet

Pelvis-neutral

rib cage-neutral

shoulders-away from ears, slightly retracted

How to achieve and maintain proper running posture

Adequate mobility (T-spine, hip flexors, ankles/Big toe extension)

Adequate Stability (core/hips)-analogy of kicking ball on bosu vs on solid ground

(We can and should work on stability and mobility outside of the run workout, through stretches and strength exercises. But first we will talk about how to recruit our existing mobility and core stability through dynamic warm ups and run drills.)

Dynamic warm up for efficient running

Definition: movements to actively prepare your muscles and joints for performance

Improve ROM

Improve movement patterns by “waking up your muscles and the brain muscle connection” which helps avoid injury (especially lateral muscles)

Increase blood flow, force and power (recruit more muscle fibers and facilitate more rapid firing of muscles)

Dynamic Warm up exercises (3 - 10 minutes)

Heel walk (stretch calves, activate shins. Practice standing tall through hips.)

knee hugs/calf raise (stretch glutes, activate hip fl., calves)

High knee internal/external rotation (lateral walk)

4 way lunge matrix (Upright posture! Keep knee in line with foot, keep heel of working foot down, don't let knee go past toes. Activates and mobilizes hips/quads)

Walking lunges with t-spine rotation (Activate scap stabilizers, improve rotation)

Soldier walk (Stretch hamstrings, activate core/hip flexors, tall posture!)

Backward hamstring walk (Stretch hamstrings, activate core, keep back flat!)

Importance of foot placement

Land softly under your center of mass to:

Reduce loading impacts (less injury)

More effectively load achilles/foot arch

Decrease vertical displacement (wasted energy)

Decrease ground contact time (less time for deformation, less breaking)

***Increasing cadence is the easiest way to transition to an efficient foot strike under your center of mass (feels like more work at first but will adapt after 2 - 4 weeks**

Most common running injuries

PatelloFemoral Pain Syndrome/Patellar tendonitis (anterior pain, runner's knee)- hip weakness (drop), quad dominance, or over-pronation, anterior pelvic tilt

IlioTibial Band Syndrome (can cause lateral knee pain)- hip drop, anterior pt

Achilles tendinopathy- over-pronation (over-pronation can stem from lack of ankle mobility, hip weakness, or out-turned foot)

Stress Fractures- weak glutes/hips (inadequate use of hip to attenuate force)

Anterior Compartment Syndrome-overuse of tib ant/post to control pronation due to hip weakness, overstriding

Most common run injuries, continued

Hamstring issues- lack of glute strength/activation to decelerate leg in terminal swing, excessive anterior pelvic tilt (not using core)

Low Back Pain-hip drop, lack of shock attenuation (core stability), anterior rotation of pelvis

Femoral Acetabular Impingement (FAI)-injury that is more commonly caused by deformed socket or hip, but the negative effects of the deformity can be caused or worsened by poor form and improper muscle tightness. Can sometimes avoid surgery by increasing mobility, strength, and improving form.

Run drills to promote proper posture/foot placement

Pogo (build solid base, practice loading the lower leg muscles)-point out foot placement (could you do this with foot out in front of you?)

Butt Kicks (core stability and tall hip posture, activate hamstrings and glutes /stretch quads, foot placement)

Half high knees with power (landing under center of mass, stable base/tall hips, loading foot/ankle)

Accelerations/hill sprints (Increased cadence, neuromuscular training, compactness, power, efficiency)

Strength exercises for runners

Emphasis on perfect form rather than how hard you can work or how many you can do. Slow it down. Pay attention to how each side feels. Asymmetry is biggest indicator for injury.

Fore core/proper pelvo-lumbar coordination (**6 week core program showed significant reduction in 5000m time**):

***Push up walkout-** http://www.functionalmovement.com/exercises/pushup_walkout

Single leg lowers- http://functionalmovement.com/exercises/single_leg_lowering_2

SLOW Mountain climbers- https://www.facebook.com/GirlsGoneStrong/videos/723532594390712/
(First part of video shoes correct form, second part shoes incorrect form.)

*__Side plank with hip dip/lift__ (EMG analysis shows side plank best for glute med)- https://www.youtube.com/watch?v=yne-rJx1eSk

Strength exercises for runners

For Hip/ Lower extremity strength and control:

***Single leg balance on unstable surface-** https://www.youtube.com/watch?v=hD5K-jEq_N4 (be sure to stay tall through the hips. Don't lean too far to one side and don't let your opposite hip drop.)

Eccentric calf raises (SL)- https://www.youtube.com/watch?v=gEgx0qJp3HM

***Single leg wall squat** (EMG analysis shows wall squat the best for contracting all 4 muscles-Gluteus max, glute med, VMO, biceps femoris)- https://www.youtube.com/watch?v=Tzz1taxHETA

***Single leg deadlift** (One of the best for recruiting Glute max)- http://www.functionalmovement.com/exercises/deadlift_single_leg_single_arm_with_one_kb

Here us a GREAT video featuring variations of deadlifts: https://www.youtube.com/watch?v=dmfearjKeUY#t=185

Why Lift?

Increases muscular surface area to dissipate loading

Increases stiffness to transfer load and elastic energy more efficiently

Max strength training increases running economy

Strength training increases VO2 max

Helps address weaknesses and imbalances to correct/prevent injuries

Example: ITBS symptom resolution parallels return of hip ABD strength

Stretching for lengthening soft tissue

Yoga wall quad stretch (couch stretch)

https://www.youtube.com/watch?v=IBg6-5T

Stretches for tissue lengthening, continued

Brettzle and Brettzle 2.0 (https://www.youtube.com/watch?v=SfGV-65GaPg)

Corrective Exercise for toe touch (10x toes up/down)

Toe touch progression

Reach high/hollow core.

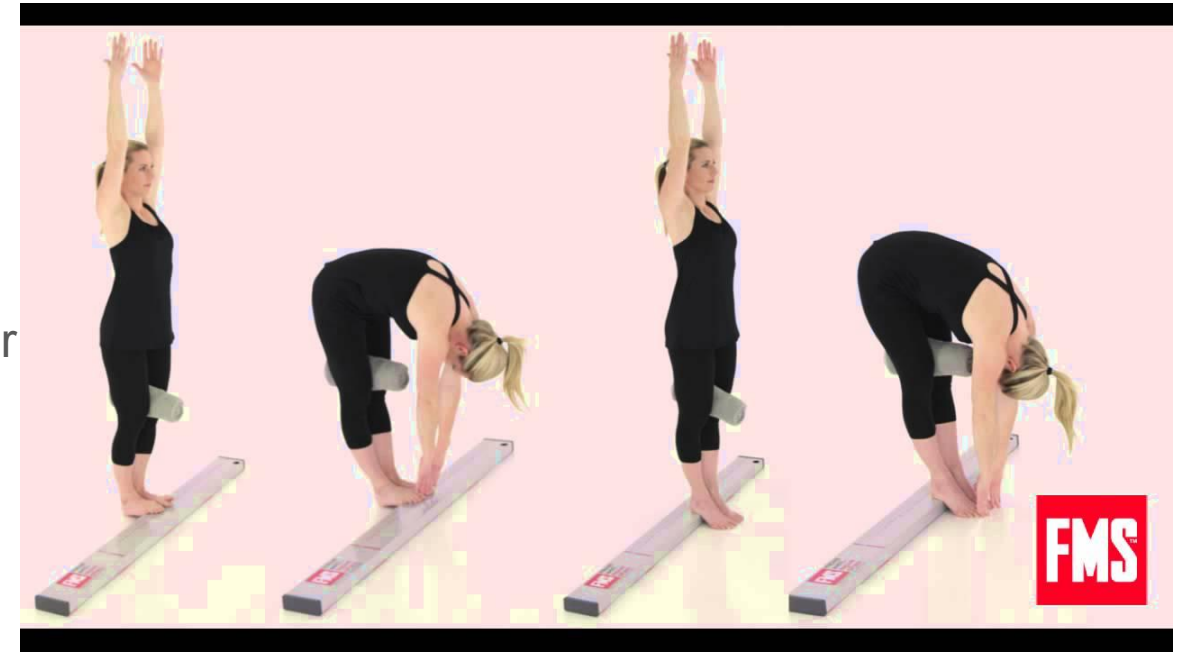
keep knees soft.

When you can’t go farther

squeeze towel w/ knees,

then bend your knees as

much as needed.



Persistent intentional practice (Cues)

1. See coach Alissa and Coach Kathy for form feedback
2. 1 loop focusing on 5 - 10% increase over preferred cadence, 1 loop focus on foot landing softly under body
3. 1 loop focus on elbows in close, 1 loop focus on driving back with elbows
4. 2 loops focus on running tall through the hips/bellybutton to spine
5. I loop focus on squeezing glute as foot hits the ground (butt running) 1 loop focus on pushing off with the butt, not the foot; or focus on driving the thigh forward.
6. Strength circuit

*4 minutes per station

Thank you for coming to RTB's Running Efficiency Clinic!

Remember:

1. Posture (feet straight ahead, knees fist width apart, neutral pelvis, neutral rib cage, shoulders down and slightly back, slight lean from the ankles when running)
2. Placement of the foot (under your center of mass)
3. Practice, practice practice! (dynamic warm up, drills, pick a cue to focus on while running)