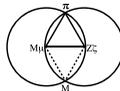


RUN BETTER, RUN FASTER

USING A BIOMECHANICAL APPROACH

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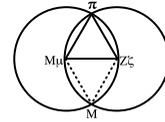


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If you have any health concerns, please visit your doctor prior to beginning any physical fitness program.

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CONTENTS

Acknowledgements	3
Credentials and Contact Information	6
Foreword	8
Introduction	10
Chapter 1: Screening for Basic Structural Components	12
Chapter 2: Biomechanics or The Big Kahuna	36
Chapter 3: Symmetry	60
Chapter 4: Core	76
Chapter 5: Build the Engine	81
Chapter 6: Flexibility	90
Chapter 7: Speed or Distance	93
Chapter 8: Recovery	97
Bibliography	111
Glossary of Terms	112

INTRODUCTION

This book is written to help both current runners—and those who want to become a runner—learn how to run more smoothly, more efficiently, and for longer periods of time without injury. We wanted to get rid of the painful early sessions that go with learning to run the traditional way (I used to hate running when I first started). We feel there is no need to “pound the pavement” or feel all beat up after a run (muscle soreness and hard work are OK, feeling beat up is not).

Here is what we are going to cover in this book:

- 1. Screening for Potential Injuries Before You Start**
- 2. Biomechanics: learning good technique always beats “getting stronger”. This is the main argument of the book.**

3. The Key Points that make up the Grab’N’Go system:

- Five parts of running.
- Symmetry of arms and legs.
- Posture for ergonomics.

Master these areas before putting more time into anything else. It may take a bit longer to learn but pays off in the long run (this is important!).

We include the appropriate strength and coordination drills for each section, as you need a certain level of strength in order to perform each technique correctly.

4. Build the Machine

5. Speed or Distance? This seems to be the big conundrum for runners. I know I used to think that it was an either/or choice. You were either a distance runner or “one of the speed guys”. I now realize that this is no longer true. With a little planning it is possible to work on both parameters as they each have their own benefits. Below we discuss how these very different goals can be merged.

6. Common Injuries and Simple Remedies:

none of us like going to the doctor.

However, every runner at some point or another will experience these, just like falling down and scraping your knee when you learned to ride a bike.

CHAPTER 1:

SCREENING FOR BASIC STRUCTURAL COMPONENTS

After years of coaching runners of all levels, this has now become my first step. I used to meet runners at the track and immediately start working on ‘track drills’ and then would become frustrated as many beginning runners could not perform these new techniques without problems. The old-school approach of “just keep working harder” only produces more of the same results. I start with the Client in what I call ‘Runner Position’ which looks a runner in mid-stride position.

WHY? If the athlete/runner exhibits any of the following faults in simple static standing, imagine what is happening to their hips and knees when they run and they increase the impact on landing to two to three times their body weight.

In this position, I look for several key points:

- Is their Center of Gravity (CoG) over their base of support/stance leg? This is best tested from a side view (Fig. 1a and 1b).

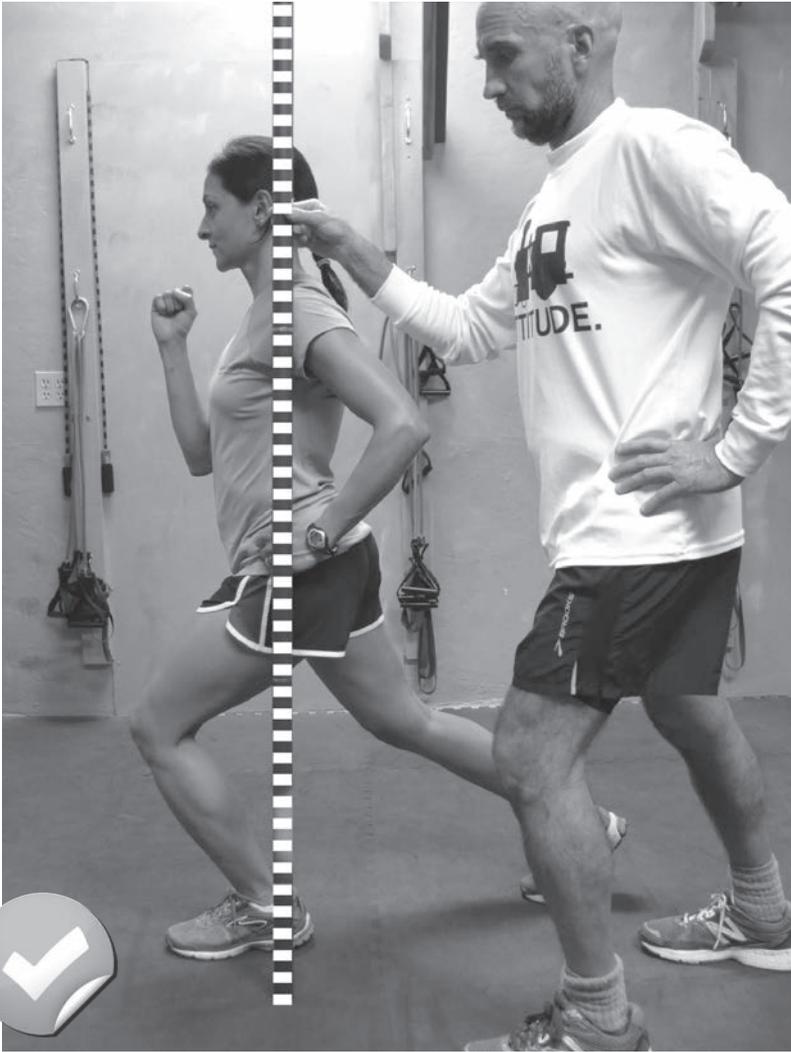


Fig. 1a: Correct stance: CoG over athlete's base of support.

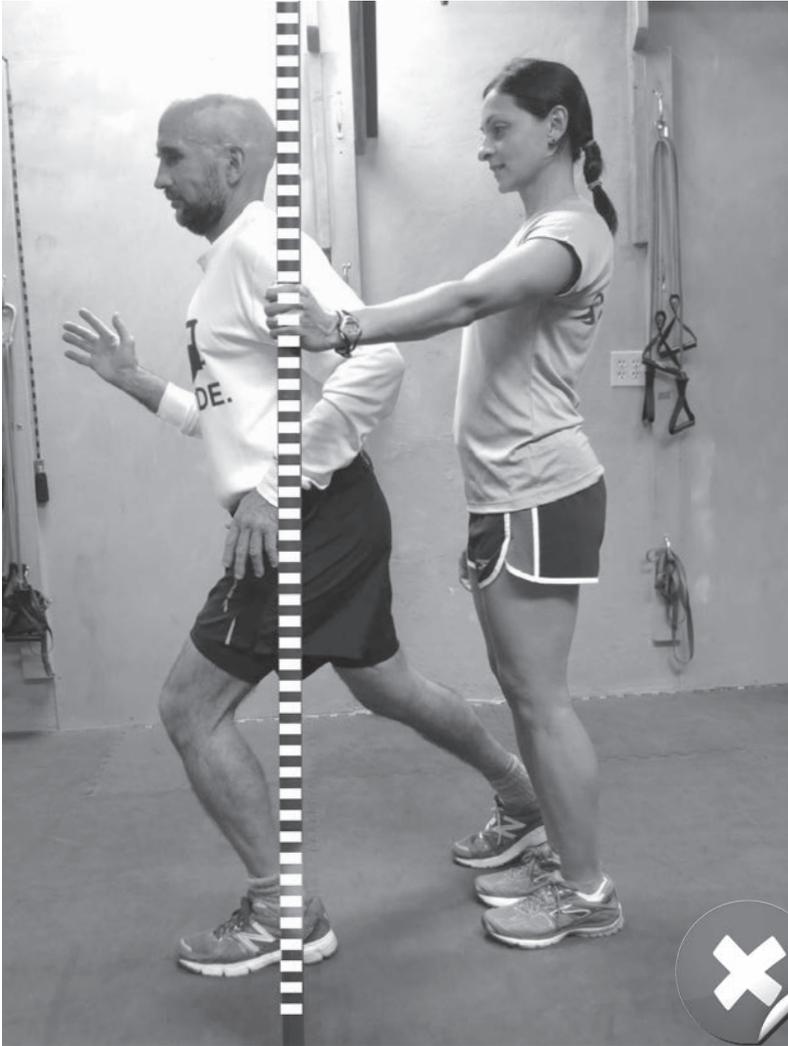


Fig. 1b: Incorrect stance: CoG shifted forward of athlete's base of support.

- Do they have equal weight distribution on their foot? Or is it skewed to the toes/ball of foot which will increase knee pressure and therefore pain. Again, a side view works best (Fig. 2a and 2b).



Fig. 2a: Equal weight distribution on foot.



Fig. 2b: Weight skewed to the toes/ball of the foot results in knee pressure and pain.

- Does their pelvis shift laterally when they shift weight on to their front foot? This is best seen from either a front or posterior view (Fig. 3a and 3b).



Fig. 3a: Correct position; no pelvic shift. Distance between pole and hip is close to or equal to shoulder and pole.



Fig. 3b: Incorrect position; note the unequal distance between pole and hip, compared to shoulder and pole.

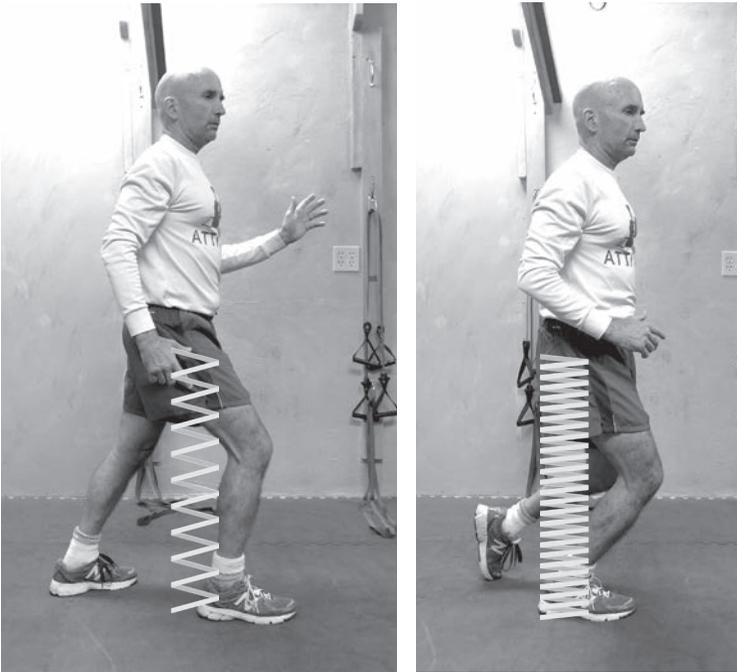


Fig. 17a: Preloading, and Fig. 17b: Loading

Following are a few exercises that will help you master this section as it does take a little bit of leg strength to control the loading phase:

Remember to maintain a small amount of knee flexion. You should feel yourself going straight up and not forward. It is OK to touch a wall or some other support next to you for balance support. When you are able to consistently do these for one minute without stopping, progress to doing single leg heel raises (Fig 22c and 22d). Build those calf muscles as they will make you faster and help protect you from ankle injuries.

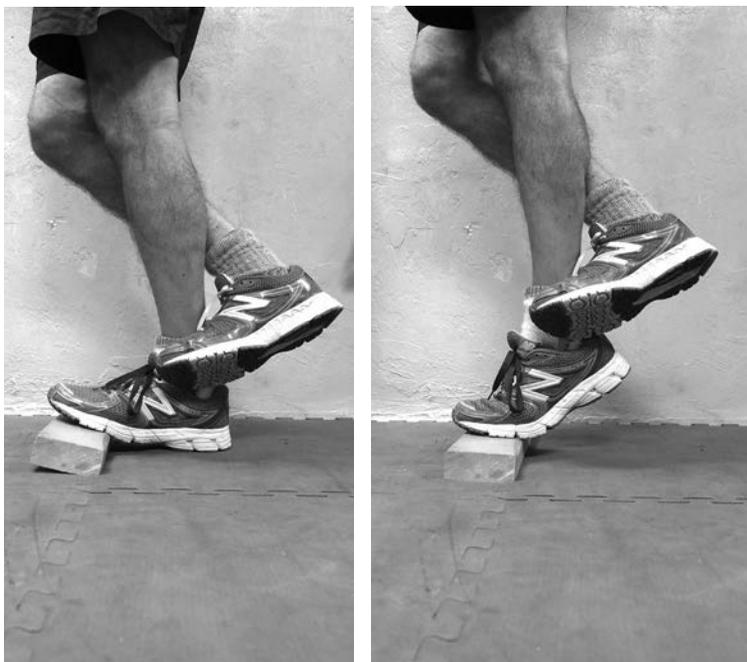


Fig. 22c: Starting position and Fig. 22d: Ending position

CHAPTER 5: BUILD THE ENGINE

Once the basic skill set is developed then it is time to build strength for both injury prevention and improved performance. Here is where many coaches will have big variations of opinion. Many traditional track coaches (and runners) believe that strength training is only done by running hills or stadium bleachers, and they have disdain for any program that involves weight training, as they fear it will make them big, bulky, and slow. Fortunately this is not true. For most recreational runners a well-organized strength program with proper technique can replace the daily short runs that are done to ‘toughen up’ the legs. In the ‘old days’ the daily runs served two purposes.

We build muscle and tendon tissue strength to prevent tears (see Wolff’s Law from Wikipedia). This can be replaced by a good strength program, and for the runner with time constraints or bad weather problems being able to work out in gym at convenient times is a blessing. And there is research that shows that appropriate strength programs are a great way to improve running performance (See Livingstone reference on page 111).

Lunges

Begin in kneel position (Fig. 42a). Cues are to ‘grab’ with the foot, feel the CoG shift forward (Fig. 42b), and then use the PKC to pull forward and up (Fig. 42c). If you watch the pelvis, it is traveling in more of a 45° line as opposed to a more vertical line used in standard type lunges. The important thing here is to emphasize feeling the grab-with-the-foot motion and then pulling the CoG forward, otherwise the client will tend to use the quads as a primary mover.



Fig. 42a: Start position of lunge drill;
Fig. 42b: Middle position of lunge drill. CoG shifts forward;
Fig. 42c: Final position of lunge drill.

Band Walk

(see Chapter 3: Symmetry for images)

When the Gluteus Medius gets stronger, it will be able to provide enough hip control by itself and the ITB can return to being a secondary stabilizer.

2. PIRIFORMIS

This is a classic pain-in-the-butt injury. Most often it hurts when sitting due to pressure on the piriformis, which can make driving home from a long run an agonizing experience. Sometimes it will only flare up during long runs when it gets overworked.

THE FIX:

I have found the pigeon stretch to be the best way to isolate and stretch this muscle (Fig. 50).

