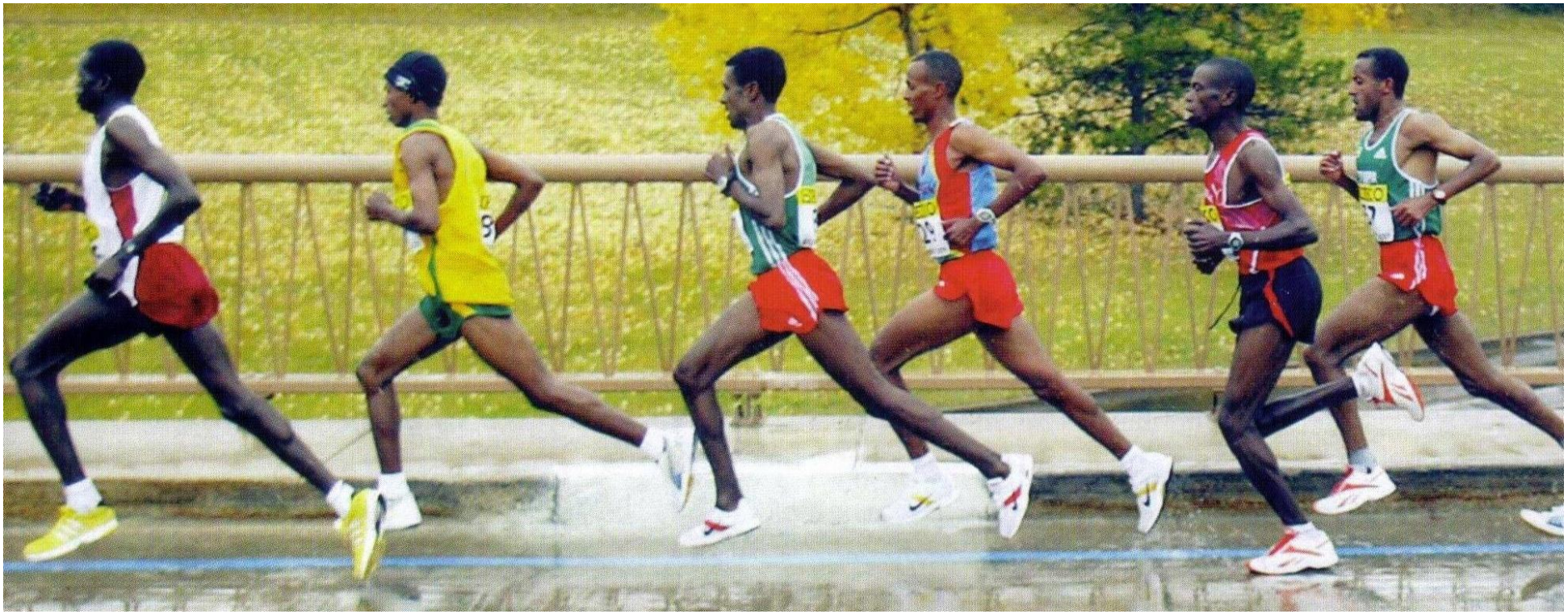
WHAT DO I NEED TO KNOW ABOUT RUNNING???

Running technique has evolved over time with theories, research, and footwear adapatations. Current studies suggest that to minimize injuries and increase effieciency, a running style with a forefoot contact close to the individual's center of gravity is encouraged.



Above: Multiple long distance runners from countries including Ethiopia and Kenya display the various phases of ideal running technique.

MOMENTUM GENERATOR

In it's simplest form, running is a controlled series of steps that keep you from falling forwards. The forward lean is important for maintaining efficiency and reducing the muscle effort required for speed. In the above picture, the runners display a forward trunk lean that can be traced down the length of their bodies to their ankles. When you are running, think "lean forward from my ankles."

FOOT CONTACT

By leaning forward, the aim is for your foot to contact the ground "underneathe" of your body. The closer the contact point to your center of gravity, the greater the force that can propel you in the forward direction. As a result, the part of your foot to contact the ground first changes from your heel to the prefered mid-or forefoot. Contacting with your heel first ahead of the line of gravity creates a backward braking force and slows forward progression.

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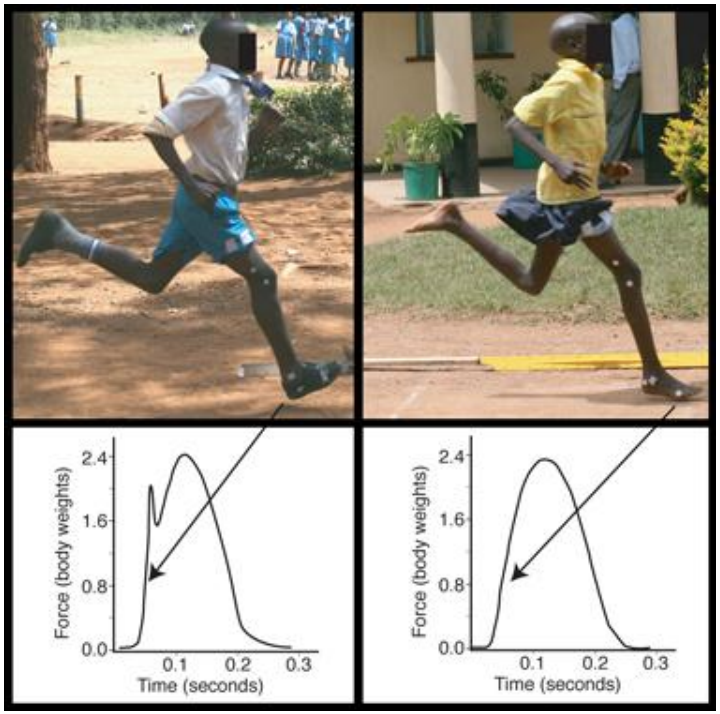
STRIDE FREQUENCY

According to Keneko (1990), the ideal running cadence is around 168-180 steps per minute, depending on the individual. An increased foot turnover leads to reduced contact time with the ground as well as a reduced stride length which promotes intial foot contact towards the forefoot and under the center of gravity. All of the above lead to greater running efficiency.

FOOTWEAR SELECTION

The newest trend in the running world is barefoot running, and there are numerous studies that display the benefits. Bearfoot running naturally causes a higher stride frequency, initial foot strike toward the mid or forefoot, shorter contact time with the ground, and less ground reaction force. The majority of athletic footwear today is bulky, rigid, and inhibits foot and body strengthening. Look for shoes with a minimal heel and flat sole to best mimic bearfoot running. **When changing your footwear, it must be very gradual and progressive to avoid injury.**



On the left, a habitually shod Kenyan who is heel-striking; on the right, a Kenyan who has never worn shoes and who is forefoot striking in the way most barefoot runners land. Below are representative force traces (in units of body weight) showing how the two styles of running differ in the force generated when the foot collides with the ground. The barefoot runner lands with no collisional force. (Image: Daniel E. Lieberman, 2010, Source here)

THINGS TO REMEMBER!

LEAN FORWARD FROM YOUR ANKLES

CONTACT GROUND WITH MID-TO-FOREFOOT

FOOT CONTACT UNDERNEATHE BODY

STRIDE FREQUENCE BETWEEN 168-180 STEPS/MIN

CHOOSE FOOTWEAR THAT IS FLAT, FLEXIBLE, AND CLOSE TO THE GROUND