

>>Fast Forward Running

by HELLY VISSER AND ROGER DAVIES

INTRODUCING A NEW CONCEPT IN RUNNING—
NATURAL POSTURE RUNNING. IT'S EFFICIENT, ENERGIZING, AND
EVOLUTIONARY, AND IT WILL CHANGE THE WAY YOU RUN FOREVER.

Some claim we were born to run, that it's a natural movement we developed as a child, but that over the years as our bodies have changed so have we adapted our own individual running styles.

Natural Posture Running (NPR) is the way you ran when you were a young child, the way animals run. Remember that cartoon character, the Roadrunner? He was demonstrating Natural Posture Running. Look at the way young children run fast, leaning, with arms swinging easily and legs flying back with bent knees, in a style that is unique to their physique but perfectly natural and biomechanically efficient. It's the way our ancestors evolved to run and it's still in our genes. Of course, over the years, all of the physical and emotional events in our lives have imprinted themselves on our bodies, resulting in tightness and stress, often in those very joints that used to be free and loose. We may not be able to return to the perfect form of our childhood, but we can take steps to get back to our own natural running form. That is NPR.

The origins of NPR date from a 2005 lecture given by Daniel Lieberman, anthropology professor at Harvard University. He gave a lecture from a study called "Born to Run" at the University of Calgary. Lieberman told the audience, "Humans were born to run," according to two-million-year-old fossil evidence. The study suggests that humans left their tree-dwelling ancestors behind because they developed into endurance runners. Lieberman identified a range of physical traits that suggest human

beings evolved as distance runners. The adaptations helped them chase down prey and compete more effectively with the speedier carnivores on the open plains of Africa. The study notes that athletic humans can outrun horses and antelopes over extremely long distances. In parts of Africa this technique is still used today by hunters to exhaust their prey.

These adaptations include long spring-like tendons, which store energy and reduce the metabolic cost of running by half. Likewise, the longitudinal arch of the foot—another well-developed set of springs important in running—evolved in *Homo erectus*. Long legs are also vital for endurance running because speed is gained by increasing the length, not rate, of strides. In addition, because running exposes the body to much higher stresses



NPR BASICS

START SIMPLE: Use the principle of adaptation with gradual progress. Give yourself lots of time, have patience and perseverance. Get a second opinion: Work with a running partner. Offer observations or suggestions on what you see.

1. Natural Posture

Straighten your body making a vertical line from head to feet. The line runs through your ear, shoulder, hip, and foot. When your posture is aligned properly the biomechanical forces that move you forward are maximized and your skeletal structure is distributing impact forces instead of your muscles.

2. Core

Your real running power muscles are in your core muscles moving your upper and lower body in balance around your central axis, leg swinging forward at the hip joint with the opposing arm swinging backward at the shoulder using those long tendons and ligaments in your body.

3. Lean—Using gravity to your advantage

Leaning engages the forward pull of gravity. Leaning is a full body tilt in which you lean forward from the ankles keeping that straight line from head to feet (not leaning from the waist). To go faster, you simply lean more, and to go slower, lean less.



4. Arms and Legs

Your arms and legs swing naturally, as an extension of your core, instead of using muscle power. Triathletes love NPR because after they finish the biking section, they don't have to depend as much on their leg muscles to get them to the finish line.

ARMS: With forearms bent to 90 degrees and shoulders low and relaxed your arms naturally swing faster. This will set a faster cadence for your legs.

LEGS: Run with relaxed legs and light feet, which strike flat at mid-stance. Lift the swinging back foot up and bend the knee to 90 degrees.

NPR METHOD



A study was recently held at the University of Calgary that examined physiological and biomechanical changes of the NPR running method. The runners involved in the pilot project were tested prior to and following a five-week training period where they learnt natural posture running. Physiological changes were measured through sub-maximal oxygen consumption tests administered by Coach Cal Zaryski from Critical Speed. To better understand the physiological changes, biomechanical gait data was measured by video analysis, and was administered and analysed by Dr. Reed Ferber from the Running Injury Clinic. Also involved in the data collection and analysis was Dr. Gwyneth de Vries from the University of Calgary.

At the time of IMPACT going to press the final results had yet to be collected and analyzed, but it is hoped that following the training program, runners will demonstrate greater physiological running economy and will report a greater ease of running. It is also hoped that the runners will exhibit a greater forward head and trunk lean, a mid-foot strike pattern with less ankle flexion at heel strike, and greater knee and hip flexion.

than walking, humans evolved large joint surfaces in the lower body to act as shock absorbers.

Similarly a more balanced head, broader shoulders, a narrower waist, and shorter forearms—all characteristics of humans amongst primates—help the upper body to counterbalance the lower body while running. Even our large buttocks—conspicuous in their absence in our closest relatives, apes—are considered critical in stabilization while running. Finally, our ability to sweat is unmatched, with our estimated three million sweat glands. Couple that with the fact that we aren't very furry and you have a cool running machine.

Natural Posture Running requires a paradigm shift in your thinking, reducing your dependence on strong leg muscles, and letting your body run in the way it was designed to:

- Using your feet as springs, not as brakes.
- Being aware that your core is your engine.
- Letting correct posture distribute the pounding forces.
- Allowing gravity to pull you forward.
- Allowing your arms and legs to swing freely like pendulums.
- Making your speed a function of a relaxed posture, leaning forward, not of your ability to push harder physically.
- Using mental training for relaxation and practice.
- Breathing relaxed.

Basically, it's about tendons and ligaments, not muscles.

This natural way of running is for beginners, recreational, competitive, older runners, or those who have been injured. Imagine a triathlete who, after the long hard swim and bike ride, uses less energy by using gravitational forces to complete the run to the finish in a personal best time, or a 10-kilometre runner who in the final 400 metres has an effortless kick.

So next time you are at the end of your run and feeling, "That's it! I'm finished!" just remember the Roadrunner. Relax your legs and arms, tighten your core, straighten your body, lean like the Tower of Pisa, and go catch that person in front.

Roger Davies, Helly Visser, and Cal Zaryski are introducing Natural Posture Running (NPR) in a weekend running camp on June 16–18, 2006, at Mount Engadine Lodge in Kananaskis Country, Alberta. For more information call 403-931-3822 or 403-230-8511, or visit nprunning.com.

REFERENCES

- Lieberman, D, Bramble, D., "Humans were born to run." *J. Nature*, Nov 2004;
 "Pose Method of Running" by Nicholas Romanov;
 "Chi Running" by Danny Dreyer. 