TAKING IT ALL IN...STRIDE

Run faster with a few changes in arm and leg action

By Marc Bloom

If you want to start a running argument, bring up running form. Talk about Jim Ryun, whose head swung from side to side, wasting energy, while his kick devastated opponents. Or how about the world-ranked masters runner Harry Nolan, a New Jersey legend, is still setting age records at 60 while punching the air and tilting his body, a la Zatopek. Or Emil Zatopek himself, considered by many the greatest runner ever, who ran as though he were carrying his wife on his back--one of his unorthodox training methods.

So what gives? Is there a correct way to run? Can running form be improved? How do we explain the form flaws of the greats? The answers are: yes, yes, and we can't. Zatopek was Zatopek. He won the Olympic distance triple in 1952 while running his first marathon. If some coach tried to "smooth out" Zatopek's form, he might have ruined him.

Many high school coaches take that view, feeling young athletes naturally grow into better form with experience, so why risk changing their style. "More miles will add strength and power to a runner's frame, and I find that a problem like over-striding eventually corrects itself," said Joe Tribble, coach at Westminster High in Atlanta, winner of 10 Georgia state 3A cross-country titles. "The body seeks its own balance. To quote from 'Chariots of Fire, you can't put in what God's left out.'"

OVER-STRIDING

But some coaches are finding prescriptions for form flaws, and among the most common flaws, according to Phil English, coach of Eisenhower High in Yakima, Washington, is indeed over-striding. "The foot contacts the ground too far in front of a runner's center of gravity, creating a breaking action, slowing a runner," said English, a former international runner for Great Britain. English estimated that based on evaluation of hundreds of runners at his summer cross-country camp, as many as 90 percent of high school runners over-stride. One easy remedy, he said, is running uphill, where an athlete's stride shortens.

It seems, then, that a long, flowing stride that oftentimes "looks" ideal may actually be too long. Another aspect of form that comes into question, said English, is the runner with the strong toe push-off who is successful in track but less so in cross-country. "The efficient track runner may not be able to generate the same degree of force, on push-off, in muddy conditions," said English. "In these conditions, a short stride with a relatively flat foot plant may be more efficient than a long, smooth stride."

COUNTING STRIDES

One proven way to avoid over-striding is to count strides per minute, which the Hilton High girls team of Rochester, New York--2005 Nike Team Nationals high school cross-country champion and '06 runner-up--does randomly in the middle of workouts. Coach Mike Szczepanik, referring to studies by master coach Jack Daniels, said that average

stride count in the 800 meters on up at the 1984 Olympics was 90 per minute per leg (actually, arm swing). "So we count strides. I don't care if the kids are running fast or slow," said Szczepanik, "as long as they're 90 or above."

This measure can also affect injury rate. Szczepanik said that runners with lower stride counts, say, around 80 per minute, tend to get injured more often. Why? "A lower count means you're in the air longer"--that is, over-striding--"and strike the ground harder with each stride, increasing injury risk."

It's easy to count strides. Check your watch for a minute, counting one leg. If the count is below 90, practice shortening your stride to get your count up. Eventually your stride should feel more natural. Szczepanik cited the progress made by his former star Amanda Griggs, a key scorer in the '05 NTN victory. "I have a video when she started running on the team. Her form was so bad," said Szczepanik. "But Amanda was diligent in her stride counts, and she became a perfectly working machine, with a stride count in the 90s."

HAND POSITION

One factor that may help facilitate stride numbers, and quicken turnover (how fast you move your legs), is what you do with your hands. Coach Ron Russo of the Colerain girls team in Cincinnati finds that hand positioning affects stride. Hands held low, around the hips, that move to mid-chest, enable you to control your stride and run faster, he said. During a race, when you hear someone in the crowd shout, "Pump your arms," think hands, keeping them low and driving them faster from the hips.

For an example, Russo tells his runners to watch sprinters in action. "You never see accomplished sprinters with high arm carriages," he said. "They drive with their hands, and their legs turn over in direct proportion to hand drive."

KNEE LIFT

Unfortunately, many American distance runners are not always the best role models, according to Steve Chavez, cross-country coach at Murrieta Valley High in California and a former sprint coach. "Studies comparing African runners with Americans show the Africans having a stride more akin to sprint stride with higher knee lift," said Chavez. "Americans tend to shuffle more with little or no knee drive."

GOOD POSTURE

To improve form, start with basic posture, said Chavez. Stand tall with back straight and square shoulders. Keep chest out with a slight forward lean. Arms should be at a 90-degree angle, and, while running, your hands should never cross the mid-line of the torso. Even a slight deviation, when magnified in, say, a 5k race, can result in much slower times. Good mechanics should be practiced daily, said Chavez.

ON THE GROUND

Chavez' point about the Africans could be seen in dramatic fashion last December at the Nike Team Nationals cross-country meet in Portland, Oregon. Kenyan high school boys and girls squads, competing as special guests, dominated the open-division races with times much faster than that of their American counterparts in the championship events. The Kenyans, using high knee drive, seemed to run "above" the muddy ground, with greater forward motion than the other runners.

Form studies underscore this advantage. Ralph Mann, Ph.D, has shown that as little as two-hundredths-of-a-second less contact with the ground per stride will result in marked improvement for a distance runner.

When it comes to stride improvement, it's important to realize that no two runners are exactly alike. "I believe there is a perfect stride for every runner," said English, "but not all runners should have the same perfect stride."