

# Runner's World





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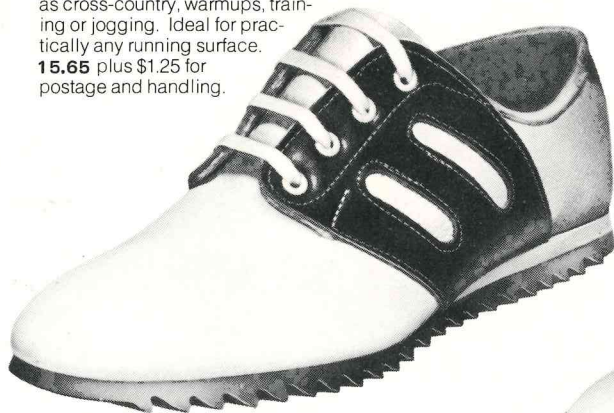
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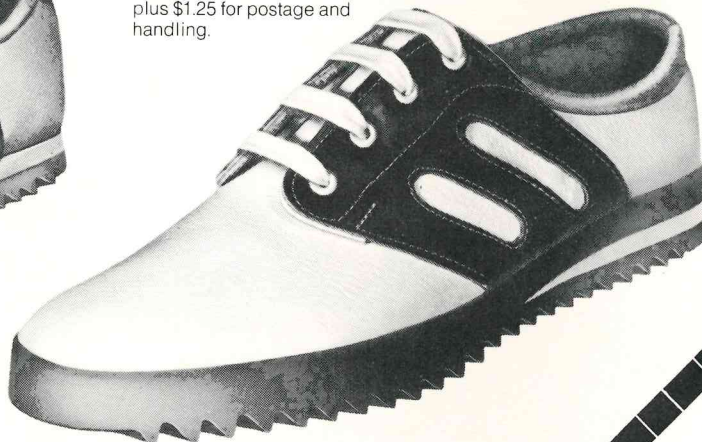
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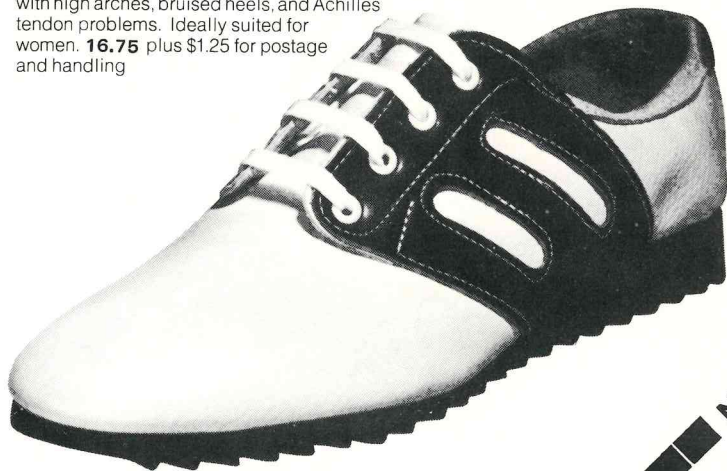
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# RUNNER'S WORLD

Volume Ten — July, 1973 — Number Seven



**COVER:**  
The milers at the Vons meet in Los Angeles: (l-r) Brian Mittelstadt, Bob Wheeler, Mike Boit, and Dave Wottle. Ken Popejoy (not shown) won in 3:58.4. (Stan Pantovic photo)

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## FROM THE PUBLISHER

*Runner's World* comes to England. Several months ago I mentioned that we were setting up a European office, but nothing more was said. Well, things are looking very good over there. Mark Shearman (our European photographer) is in charge of the set-up and it appears to be a very good move indeed. Mark currently is working out of his home but there are plans of moving into an office in the next year or so. He sells the booklets of the month and a few of our other books as well as taking subscriptions.

As far as the magazine is concerned, he offers both an airmail and seamail rate. The difference is about \$2.50 per year. The normal airmail rate would be \$12.00 more per year. But we can get around this by sending a large number of issues to Mark by air freight and then he sends them out from his end.

I mentioned in the last issue that we would be looking for an advertising manager in the next couple of months. The time has come. Here are some details on the job: the man would be in charge of our four publications (*Runner's World*, *Bike World*, *Aquatic World* and *Nordic World*); he would write letters and make phone calls to potential advertisers; service the accounts; and offer advertising programs to them. The job can be a very rewarding experience. Starting salary will be good and advancement opportunity is great.

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# DOUBLE... TOIL AND TROUBLE

In April, four teams ran at Eugene, 500 miles north of here. The story of the meet rated three paragraphs on page six of the sports section. All of this article was about UCLA's team victory, and how it came about.

Only down in the small type was the notation: "Mile-1. Prefontaine (O) 3:56.8" And later: "3-mile-1. Prefontaine (O) 13:06.4." The greatest double in track and field history hadn't rated a sentence in the article.

This wasn't surprising. This is the kind of emphasis the public press gives to track. This is the way most schools think of track, too—as a team activity where runners "double" to raise team scores.

Most schools do this, but not the University of Oregon. Double their runners, that is. Oregon likes to win meets, but not at the expense of putting distance runners in more than one race.

The surprising thing about Prefontaine's double, then, was not that it went unreported or that he *could* do it, but that he would put these two races together. This was the same Pre who had seldom doubled in college, and had downplayed early-season meets to the point of skipping some altogether. This was part of Bill Bowerman's master plan, which Bill Dellinger had taken over when Bowerman retired as coach.

Bowerman said in an *RW* article last year ("The Bill Bowerman Formula," Jan. 72), "Overracing can cause the same complications as overtraining. Because of this, Oregon runners seldom ran two races in the same meet. A runner like Steve Prefontaine is capable of doubling very well. But I think a fellow who tries to carry the whole load is doing a disservice to another runner who might want the opportunity to be a winner. He not only is denying this other fellow an opportunity to win the pot, but he himself is going to reach the point where he says, 'Oh my gosh, here I go again... two races.' It takes a lot of the joy out of it."

This one time, though, Pre did double. Apparently there were no ill effects, because two weeks later he ran his fastest mile of 3:55.0.

But there's more here than the newspaper summaries show. Before his mile, Steve said, "My training hasn't been going well. I'm very flat. I'm just not up

for it... The last 10 days, my legs have been dead. They didn't respond after that double..."

Coach Dellinger said, "Twice during the meet, Pre came up and told me he didn't want to run because his legs were dead. I told him, 'Look at all those people. They came to see you run.'"

Some runners get lured into extra races by team loyalties. Loyalty to the Oregon crowd, which has spurred him to so many fast races, got Prefontaine to race when he didn't feel up to it. Runners hurt themselves for the best of reasons.

Pre rationalized, "Maybe I just need to blow out the tubes." But more racing has never been a very good cure for symptoms of overracing.

Two weeks later, word came out of Eugene that Prefontaine was injured and that he would have to miss a meet. The problem resembled sciatica. It would be idle speculation to assume that his injury was a direct result of his heavy racing in recent weeks. Without all the facts, we don't want to delve into that. He did, however, race when he admittedly was "flat" from a hard double, and he got hurt a few weeks later. There's the possibility that all of this was related.

The injury turned out to be minor. The week off, which Pre's coach was wise enough to insist on, took care of it before further damage was done.

Frank Shorter isn't running either. A similar chain of events led him to an injury recently. Frank isn't in school, so there's no call for him to double. But as Olympic marathon champion he's much in demand to race around the world.

Within six months, Shorter ran three marathons of 2:12 or faster, along with numerous other races. He made two trips to Japan, one to Italy, one to New Zealand, one to Colombia, besides doing considerable traveling to US races.

Shorter made another trip to Europe in May, this time to Finland for his fifth marathon in less than a year. Shortly before 20 miles, he fell out of the race with a suspected stress fracture in the ankle.

Again, it would be wildly speculative for us to assume that Frank's heavy racing schedule caused this injury. But it can't be ruled out as a possibility, either.

Prefontaine and Shorter are the two best distance runners in the United States. If these kinds of injuries, *possibly* resulting from overracing, can happen to them—the fastest, smartest and most durable of runners—how are the rest of us standing up to our racing loads?

From the injury statistics we've seen, the answer is not too well. Two in three of our runner-readers have had problems serious enough to keep them from running for extended periods. Injuries aside, many have so exhausted themselves in the emphasis on quantity that they can't find quality in their racing. This is sad.

We should review our emphasis in racing, deciding whether we want to run faster or to run more often. Few runners, unfortunately, are strong enough to have both.

We should evaluate the demands we as runners make on ourselves, and the demands we as fans or coaches make on other runners. Are they in the runner's best interests?

Each runner apparently has only a limited number of good races to give during a season or a year. The reserves he has accumulated through training can't be spent carelessly. And to run back-to-back races with inadequate recovery in between is to squander these reserves. Tired runners get hurt.

Rodolfo Margaria, an Italian exercise physiologist, has found it takes even a 400-meter sprinter at least 1½ hours to get over an all-out effort. Recovery time is proportionally longer as distance grows.

"Many meets don't last more than 1½ hours," the booklet *Racing Techniques* says. "So two races for a quarter-miler would be a maximum. Time limits obviously preclude full recovery for anyone at longer distances. Yet runners do miles and halves, or miles and two-miles within an hour."

The conclusion is that "repeated runs without adequate recovery are a severe drain on stamina and spirit without a corresponding return from performance. Few runners thrive on a lot of mediocre yet exhausting races."

To do these races "for the team" or "for the fans" is misguided idealism. In the long run, the runner who races too much may be doing no one a favor, least of all himself.



# NEWS AND VIEWS

## Australia's Pros

Ian Leeder is an Australian professional runner. These were his reactions on reading the March 1973 article "Australia's Winning Bet" by Bill Emerton.

I admire Bill Emerton's many feats of endurance, but I feel I owe it to *Runner's World* readers to clear up the gross exaggeration contained in his article.

I run as a professional myself and have been now for three years, after 12 years as an amateur. All this time I have followed pro running with interest, as I have an elder brother who ran pro before I did. So I can comment with some authority on the true Australian pro track scene, as it is now and as it has been for many years.

Victoria is the main pro running state, and during the track season (November to April) meetings are held every week in different cities and small country towns throughout the state. Other states only have a few track meetings a year.

Bill mentions 8000 to 10,000 registered pro track athletes. The actual figure would be less than 1000. Stawell is the largest meeting, as Bill mentions, but the crowd of spectators on the final day is usually around 10,000, not 40,000 to 50,000.

As for the betting on running events: except for one weekend at Stawell, it is almost non-existent. About half the track meets are on Sundays when betting is illegal, and on Saturdays bookmakers concentrate on horse race betting in Melbourne. Once every four or five years, a syndicate backing a runner at Stawell may win up to \$10,000 in the main Easter sprint, but never up to the \$50,000 Bill mentions. Betting on one- and two-mile races is very limited, and amounts won seldom exceed a few hundred dollars.

I feel if betting were legal on the International Track Association events in the US, it would do more harm than good. It would encourage fixing of races, cheating, etc., which could quickly end the pro circuit. If the ITA uses

good promotion and has adequate sponsorship, its prospects could be unlimited.

In Australia, however, pro running survives because of the average runner who supports the sport. Very few make enough money to cover expenses, and a large number never win a cent because so many compete in each event.

I have run in more than 30 pro track races over the last three years, in handicap events over distances from 1500 meters to two miles. In each race there has been between 35 and 65 runners.

I am a backmarker (late starter) and have to run through the field. But I have never encountered any rough running. On one occasion towards the end of a race, I collided with another runner whom I know well. He was called before the stewards and fined \$5.00 for "deliberately" elbowing me, when actually we were both so tired we just wobbled into each other.

Stewards are spread around the track and have the power to suspend runners for unsatisfactory performances, and to fine them for breaking rules. Pro running in Victoria is conducted along hard, strict rules. But it is a clean and fair sport, and that is why it has lasted nearly 100 years.

Recently, Olympians Tony Benson and Chris Fisher crossed to the pro ranks in Victoria. They have done well, winning close to \$2000 each. However, they are now critical of their handicaps and believe they face impossible tasks in the future. I think they are both a little greedy, as the pro system in Australia is for average runners as well as stars. The winners' task has to be made more difficult after each victory, or the average runner would soon give up.

From Ian Leeder

## "Breakthrough"

**Ted Corbitt, now 53, is still one of the fastest veteran marathoners in the country. He is the American record holder at 100 miles and until recently had the mark for 50 miles.**

A breakthrough is several steps beyond getting into good condition. It appears as a sudden cracking of an improvement barrier. It features heightened physiological and psychological states, sometimes bordering on euphoria. This frees the athlete to run significantly faster. Few runners experience a real breakthrough, although many get close to one. A breakthrough usually happens only once in a career.

It is the runner's "day in the sun," win or lose. He will bag his fastest times during this period. Since a relatively few runners win all of the races, one's best times—not medals and trophies—are the main measure of achievement. Beyond this, a breakthrough can be a source of joy or personal satisfaction. It also demonstrates to the runner's amazed comrades that it is indeed possible to improve, and that there is still hope for them.

How does one get into this elusive, relatively fleeting breakthrough state? The runner can only search and train for one. It must be courted vigorously, without guarantee of results. Sustained, patient, systematic training, forcing nature, is needed to trigger a breakthrough. The main enemy of a breakthrough is injuries. Other roadblocks: too little stimulating or stressful mileage, erratic training patterns, poor nutrition and sleep-rest habits, and lack of motivation to train and race hard.

Getting fit means remaking the body into an efficient running machine. Any training regimen which uses the principles of progression and overload can toughen the body so that it is ripe for a build-up which can finally peak as a breakthrough. Usually the runner is fired up, either from within or by someone else, to train more intensely over many months until faster running spills out.

Although the yield from extra training is unpredictable, runners who put in the added quality efforts, to escape injury, and who by nature are "competitive" enough to push themselves in racing wars will all improve.

Unfortunately, the faster times of a breakthrough are usually not permanent. In fact, its peak is like a bolt of lightning that strikes once and is gone forever. Ironically, in some cases a breakthrough is the beginning of the end of the runner's career, his "kiss of death"—at least as an effective competitive force.

So, in effect, the runner explodes out of the pack to the front or nearly so, only to tumble back a bit, or even into oblivion. Racing at maximum speeds over many years is uncommon. A breakthrough must be milked dry when it appears, or the chance is usually gone forever.

Many runners with age, talent, fitness and fighting hearts on their side have discovered this truth too late. The magic moments are too soon gone for most stars, leaving them to decide whether to continue to compete on a lower performance plateau or to stay home, putting the whole scene behind them.

From Ted Corbitt



## Young Runners

**Hal Higdon, a frequent RW contributor, holds several world and American records and titles in the over-40 ranks.**

The age-group program has been going on long enough now so that we should be seeing some results. Have the young jocks who were setting records at, say, age 12—five years ago—continued their excellence now at age 17?

In looking at the age records, I noticed that Craig Virgin showed fantastic early marks, but his two-mile times seem to have leveled off the last three years, which may be only natural. Maybe his ultimate potential is 8:40 and he was able to look so good so young simply because he approached that potential at age 14 instead of 21.

Gerry Lindgren burst into headlines as a high school phenom, but never really lived up to his potential. Or maybe he did, but we weren't wise enough to recognize that it was simply a matter of early maturity.

Also, look at the case of Bruce Kidd, another young star who ran his best times before he was 20. One thing Bruce did, which I suspect a number of runners don't do, and that is: he continued to run even when he wasn't running well, in the sense that he was nowhere near his previous bests. But obviously he enjoyed running for running's sake and was willing to continue in competition just for the sheer fun of it.

Will this be true of the current age-group record holders 10 years from now when they are out of school and faced with the necessity to make a living? Is this necessarily bad? Should the ultimate goal of running be only the ability to maintain interest in the sport 20 and 30 years past your prime? Or should we accept that sports is a now activity?

I'm working on a book with Kansas City Chiefs coach Hank Stram and that's one of his favorite quotes: football is a now sport. What is important is this season, this game, this play. You can't worry about tomorrow. You do your best *now*. Then when that play, or event, or race, is over you do your best on the next occasion. Does it make sense to plan ahead for tomorrow when there may be no tomorrow? The bomb could drop tomorrow. An accidental injury could end a career. Should we take what we can today and let tomorrow take care of itself?

I have voted against this course with my oldest son, since I am regrain-

ing from pushing him too hard too soon. But I am conditioned by my own experience. I failed to break 5:00 in high school and matured late as a runner. I always have thought that one of the reasons I have been successful as a master runner is because I was relatively unsuccessful during my youth in the sport.

But maybe I'm guessing wrong. I'm inclined to be critical of parents who push their children into intensive training at such an early age, but maybe this will be the only opportunity those children have for excellence in sport before other interests interfere. So better a memory than nothing.

From Hal Higdon

## Why Take Chances?

Warnings, warnings. Run or you'll risk a heart attack. Run too much and you'll risk breakdowns as bad or worse. One side uses fright as a prod to get people to run. The other uses caution to hold them back. Caught in the middle, say several doctors in the preventive medicine field, are runners who are needlessly confused, inhibited or bored.

Dr. George Sheehan says that not to take some risks, not to court some dangers or to press some limits is not to experience running fully.

"Every sport has certain risks," he says. "Consider mountain climbing, cycling, auto racing, the 'blood' sports. Our risks are certainly minimal. But they are there."

Sheehan says it's becoming increasingly evident that "running is a relatively hazardous occupation, especially as so often happens with activities, in the very beginning." He refers here to the cases of sudden death among novice runners.

But, as he said in the April *RW* ("Beyond Fitness"), "We should be in sports not because they are practical but because they're not; not because we feel better but because we don't care how we feel; not because our fitness is increased but because we are so interested we don't even notice."

Dr. Sheehan advises courting reasonable risks. He gets support from Dr. Sol Roy Rosenthal, professor of preventive medicine at the University of Illinois. Rosenthal currently is working on a book on risk-taking in sports. His thesis is that to live a full life, one must participate regularly in a sport that provides an element of danger.

Rosenthal divides sports into "RE" (risk exercise) and "non-RE." He says sports such as skiing and skydiving have the highest risk factors, while walking has almost none.

The risk in running increases with intensity, until at the highest level the danger of at least temporary collapse is fairly pronounced. Runners know this, and still seek these levels.

Rosenthal explains why by saying the same amount of energy invested in RE and non-RE activities affects people differently. Non-RE exhausts, while RE exhilarates. While low-risk activities tend to get dull and tiring, risk-taking is exciting. The doctor says individuals are "more efficient, more creative and more productive after RE."

He notes too that attitudes toward winning and losing are generally healthier in risk-taking than non-risk-taking sports. "Enjoyment of golf, volleyball and other non-RE activities often is related to winning," he says. "But in RE sports, fulfillment does not depend on winning."

He thinks risk-taking cravings come with the human mechanism:

"They were carefully calculated long ago. Risk became sport as well as necessity. Natural risks evolved into challenges, and physical feats. They helped mold man's codes of honor, pride and loyalty. They also prolonged his youth and prowess. In time the old stimuli—the old dangers—were forgotten, but not the effects, not the way man felt. He is still happiest when physically threatened."

But, he adds, "let's be sure we understand each other. I'm not advocating recklessness. There was nothing foolhardy about the risks your ancestors took. They were calculated risks, well calculated."

America's top heart doctor, Samuel M. Fox (he's president of the American College of Cardiology), favors similar emphasis. He said recently in *Internal Medicine News* that it is much more important to enhance the quality of life through exercise than to simply increase the quantity. While the life-lengthening characteristics of activities like running are debatable, he says, the excitement that comes with mastering a difficult task is undeniable.

## SOCCKER WORLD

Soccer World, our upcoming new publication, has been postponed. It will probably come out in the summer of 1974.



# RICK WOHLHUTER



Doug Schwab photo

One year ago this month, RW carried a story on 800-meter/880-yard running. It called this the "event where time stands still."

The world record in the 800 was one of track's oldest. Peter Snell had set it in 1962. And the half-mile, which Jim Ryun ran in 1966, was also one of the longest lasting.

The reason, this article said, wasn't that these marks were so good they could not be touched, but that they didn't get much serious attention from those capable of breaking them. The best runners were milers stepping down for a change of pace.

Time continued to stand still in the two-lap races until May 27. That was the day Rick Wohlhuter ran 1:44.6 for the half in Los Angeles, three-tenths faster than Ryun's old mark. The 800 wasn't timed. But had it been, Wohlhuter surely would have brought the record down to around 1:44-flat.

It's significant, perhaps, that Wohlhuter considers himself a "true half-miler"—not a miler first, as Snell and Ryun had been. Rick is concentrating on this one race.

For the first time, he has really been able to concentrate in the last year and a half. In college at Notre Dame, he had achilles tendon injuries nearly every spring. Since last January, he has been healthy.

Wohlhuter has been running with the University of Chicago Track Club during this time. Last summer he was a surprise qualifier for the Olympic team, but in Munich he fell in the first round.

"After that fall," he says, "I knew I couldn't quit."

In mid-May, he ran 1:44.8 during the UCTC's world record two-mile relay. No one had ever run faster for a half, relay or otherwise. Then came what Wohlhuter calls his "retribution for what happened at Munich."

**RW:** Looking back on Munich, what do you think the effect of your fall has been on your attitude? Did that influence your running this season?

**Wohlhuter:** I was disappointed, terribly. I felt I had a really good chance. I was running well, was in as good shape as I had ever been in, and I was confident that I could at least get to the final, and

maybe get a medal. I felt I had a definite chance to pick up a medal.

It was a little tragic loss for me. I was very disappointed because it ended so quickly. But I said, "Well, there's next year." I wanted to try and establish myself as the best half-miler in the world, and if not that then certainly in the country.

Maybe the fall was a slight increase in incentive to perform well. I think the two records have been more or less a retribution, sort of making up for what happened to me in Munich. I don't think I exactly planned it to be like that, but it sort of worked out that way.

**RW:** Did the records come as a surprise to you, or had you had some indication that this was going to happen?

**Wohlhuter:** I had quite a lot of indication. I didn't think it was beyond me. I ran well last year and made the Olympic team. That was really my big breakthrough. I started rolling at that time. After the good relay split at the King Games, especially since I was out in the lead and did that all by myself, I felt there was at least a chance I could run around that area (1:44.8) in the open half, too. It came out that way. It worked out really well.

**RW:** Had your training given you some clue? Had it indicated you might be able to run this well?

**Wohlhuter:** Actually, I don't really think so. I'd been taking my workouts a little easier, I think, cutting back just slightly in mileage in anticipation of the season. And I'd been competing the last four or five weekends straight. If for no other reason, that alone causes you to hold back a bit.

**RW:** Since your "breakthrough" last year, has there been anything in your approach to running that has changed drastically?

**Wohlhuter:** I competed all last year, starting around January or February and going straight through. I had summer running for the first time—naturally due to the Games. I maintained my conditioning through the fall, into the indoor season, and then up to this time. I've been in shape for a longer period of time than ever before, and I think

I'm stronger this year than ever before. This has helped me greatly.

**RW:** In college at Notre Dame you had a series of injuries. Have you been able to stay free of that problem since then?

**Wohlhuter:** I had trouble basically with my achilles tendon in my left foot, and it took me three years in college to learn how to take care of it and cope with it and handle it well enough so I could get around it. I've been lucky. Since I learned how to take care of it, I haven't had any trouble. I exercise it. I stretch it a bit every day, so apparently that has worked out for me.

**RW:** Many runners seem to do the reverse of what you've done. They have a great college career then they disappear from track. What kind of club situation do you have that explains your improvement the last two years?

**Wohlhuter:** I think basically in college I was more or less forced to compete weekly, and at times maybe double or triple. But since I've been with the club, I've run a lot of non-pressure races, like I've run the two-mile occasionally and the mile here and there and the mile relay—but only when I felt like it.

I'm in the position where I'm more relaxed in that I'm running where and when I really feel like it. And if I want to take a weekend off, fine, I do that without worrying about it. I now feel more relaxed, and I think that's paid off.

**RW:** How much influence has Ted Haydon (the UCTC and assistant Olympic coach) had on you in the last couple of years?

**Wohlhuter:** He's given me the money to get to meets and he's gotten me the entries, so he certainly hasn't been a detriment. I basically set up my own workouts, and he doesn't really give me a lot of advice on that. But he's always there. I train at the University of Chicago, where

he is every evening. So when I do need advice, he's right there and he gives that to me when I ask for it.

Ted has really helped me out by providing me with the competition that I've needed, and even by providing me with *easy* meets which I think are important—the non-pressure races where I can run maybe a 4:05 mile and not have to worry about being beaten by Dave Wottle or having to compete against guys like that. That's a change as opposed to college.

**RW:** You of course have quite an outstanding group of half-milers on your team there at the track club. Do you fellows work out together, or is this an individual thing?

**Wohlhuter:** Well, Lowell Paul is in Kansas, Ken Sparks is in Indiana, and Tom Bach is on the north side of Chicago, so none of us work out together at all.

**RW:** Obviously not! Do you have a anyone you can work out with?

**Wohlhuter:** Not exactly. I do most of my workouts by myself. There are a few guys who practice at the University of Chicago, but I never get down there and get going until about six o'clock. There's not too many left by then, and definitely no half-milers or milers. I sometimes run with a couple of intermediate hurdlers. If I'm going to run a fast quarter, I'll go through that with them. But basically I train almost always by myself.

urance claims adjuster) fit in with your training and racing plans?

**Wohlhuter:** It doesn't fit in as well with my training as I'd like. I have to get up about six o'clock in the morning if I'm going to do a morning workout. And of course I don't ever start my practice till six at night. But the thing that's been really good about it is that they've given me time off to compete and haven't given me a real hassle about it. Of course, I've been doing well, so I guess that has made it easier for them to give me the time off. I've had no trouble whatsoever about having time off to compete. But I still fill in the full work day during the middle part of the week.

**RW:** How often do you take morning workouts?

**Wohlhuter:** I run in the morning just twice a week, usually Tuesday and Thursday. Those are also the days I like to do the speed work.

**RW:** Is your afternoon work primarily on the track?

**Wohlhuter:** It's almost exclusively track work in the afternoons. But that's

usually only five days a week. I compete once (a week), and on Sundays I like to go for a hard 10-mile. I think that helps my strength out a lot. I had been running the 10 in about 57 minutes, but the last couple of weeks I've been easing up to 60 minutes, 60 or 61.

Other days, I might put in some sort of distance work—what I consider distance. It's not so much a tremendous amount of volume, not five or six miles on the track. But I'll run either repeat 220s in around 30 seconds or so, or else I'll do a three-quarter-mile in around 3:15 and then come back with a half in around two minutes and a couple of quarters, all with the same distance in jogging in between.

Tuesday and Thursday is speed work. Usually 660s, quarters, 330 or 220. Maybe I'll hit a 660 and a quarter on a Tuesday, and then I'll come back on Thursday with three or four 220s at a good pace—you know, 25-flat or better.

**RW:** The people who have held the half-mile record in the past 10 or so years, Peter Snell and Jim Ryun, have been primarily milers. What is your best mile?



**Wohlhuter immediately after his record 880 in LA. (S. Pantovic)**

**Wohlhuter:** I've run 4:02.7. I can break four. (He ran 3:58.8 a few days after this interview.) But I can run the mile. Most of the previous half-mile record holders have been miler/half-miler types. I'm more of a true half-miler as opposed to guys like Wottle, Ryun and Snell, who I think consider themselves as milers first.

**RW:** When you're running a half-mile, what kind of pace do you prefer? What kind of race do you like to run?

**Wohlhuter:** I like to see a fast pace. That's the only way you're going to get a good time. I was 52.2 at the quarter at Los Angeles, and I'd like to have seen it around 51-flat or slightly better.

I have good enough leg-speed, so I can maintain that pace and still remain relaxed through it, without having to force myself to get there in that time. Then it's a matter of working that third 220. I was around 1:18 in the record race, but I still think that was a bit too slow. I'd like to be around 1:16.0 to 1:16.5, and I think at that pace I can still come in with about a 26 or 27 last 220.

I think if I can stay relaxed and there's enough competition, if I can work that third 220 to hit the 660 around 1:16-point and still maintain my composure, I can hit 1:44.0—or maybe in the 1:43s with a little luck.

**RW:** Do you feel that your new 880 mark and the 800-meter record may come down even more this year?

**Wohlhuter:** I feel that record is not a tremendous record. It's certainly not unbeatable. Basically, milers have held this record, and I think when we get faster half-milers like myself and the Italian (Marcello Fiascanaro, a 45-second 400m runner who has broken 1:45 this year for the 800m), the record should be lowered more than it has been.

**RW:** What are your plans for the coming months?

**Wohlhuter:** I will be in the AAU. But beyond that, I don't know. I have no definite plans, I'd like to go over to Europe because the only way to get good competition after the AAU meet is by going to Europe. I'm hoping to set something up there.

I'd like to run a real fast 800. If they had set up the 800-meter mark (at Los Angeles), I would have probably had that record, too. According to the normal conversion (of seven-tenths of a second), I would definitely have had it. I'm only three-tenths above it. I think I can run around 1:44, or under 1:44. I certainly can with good competition and a fast first lap.





# WHAT DIET CAN DO

*New evidence on what eating and drinking mean to times and distances.*

“The athletic image is closely linked with dietary faddism. Athletes are thought of as pill-poppers who are easy prey to advertising claims. They think of themselves, it’s said, as needing special menus which translate into improved performance.”

This is the image. What are the facts? How special are the habits of runners? How much, if any, good can they get from unorthodox eating and drinking? What are the effects of running on weight, and weight on performance?

In the year since *The Runner’s Diet* went into circulation, a number of new findings on nutrition have come to light which answer some of these questions. The conclusions are valuable for all runners.

Contributors to this section include four medical doctors who debate carbohydrate-loading, exercise physiology student Patrick Reid of Canada and free-lance writer Roland Zechmeister.



# TESTING THE UNTHINKABLE

Once it would have been unthinkable to do what Park Barner did last fall before two ultra-marathons. One of these races was a double marathon—the 52½-mile London to Brighton race in England. The other was a 36-miler just two weeks later.

It once would have been unthinkable to run two races so long so close together, but that's another story. The subject here is running nutrition. Long runs such as these gobble up calories at the rate of perhaps 100 per mile. Ultra-marathons like Park was running require 3000-6000 calories, at least.

So the logical thing for the 28-year-old Pennsylvanian to do would be to eat heartily the last hours before racing, stuffing himself with as much energy as he could store.

But instead of fueling up, Barner fasted. "A week before the London-Brighton," he says, "I tried juice fasting. I also ate my last meal 24 hours prior to the race instead of the usual 3-6 hours."

Not only did he finish without having his energy run dry, he ran almost a half-hour faster than his previous best for 50 miles. Two weeks later, in the 36-miler, he used the same fasting technique. He passed the marathon within minutes of his best time at that distance, and went on another 10 miles at the same pace.

Park had picked up the fasting notion while reading *The Runner's Diet*, a booklet that is full of radical approaches to the feeding and watering of runners. It points out a number of so-called "myths" in established nutritional theory, and proposes alternatives.

It has been assumed, for instance, that runners need more food than most people because they exercise more. The booklet flatly states, though, that even runners usually are overfed and therefore are overweight.

A leading nutritional expert has said, "The ideal diet only provides a neutral atmosphere." In other words, it can only hurt performance if it is inadequate, not measurably improve it by being adequate or super-adequate.

Perhaps runners are simply coming up with a new definition of "adequate," but in case after case they've shown that diet juggling gives immediate and positive results. This is true of reducing weight to well below established norms, loading with carbohydrates and/or fasting before races, and with taking special drinks on the run. Some support is also offered for

the beneficial effects of vitamins and minerals in heavy doses.

Admittedly, many of these techniques are controversial. Now that the booklet has been out for almost a year, there has been plenty of time to argue over the practices, to practice them, and in some cases to add to them.

This series of articles isn't duplicating *The Runner's Diet* but summarizing what has happened in this area since the booklet was published last August. The articles include some of the arguing, some of the practice and some of the additions.

We're concentrating on the positive benefits of diet-watching, the effects that can be seen in terms of faster times and longer distances, instead of the practices that merely prevent or correct dietary inadequacies. Those are problems for a doctor. We're interested in what already healthy runners can do to help themselves run better.

The emphasis is on long distance racers who go continuously for more than 30 minutes. This isn't meant to exclude non-racers, sprinters and middle-distance people because they are runners at their maximum. They're pushing to the limits of their resources, and diet often can extend those limits—sometimes dramatically—by increasing available fuel supplies and simultaneously reducing the load that has to be carried.

If these dietary practices help runners at the extreme end of the effort scale, they should have application to all other runners who sometimes get tired, hot or thirsty.

## DIET HABITS OF RUNNERS

The athletic image is closely linked with dietary faddism. Athletes are thought of as pill-poppers who are easy prey to advertising claims. They think of themselves, it's said, as needing special menus which translate into improved performance. Smoking and drinking? Never. Drugs? Maybe, if the rewards are high enough.

RW recently polled its readers to see how realistic this image is. Questions involved weight gain or loss through running, special dietary practices, and smoking-drinking habits. (We didn't want to touch the drug matter.)

The survey measured only prevalence, not effectiveness, of these diet-rela-

ted factors. But runners tend to do what they think is good for them, and to avoid what appears to be harmful. So effectiveness can be inferred from these figures.

**Weight:** How effective is running as a weight reducer? Amazing claims have been made for it, but what are the experiences of long-term runners?

We looked at runners who'd started as adults, since obviously most of those beginning as children show weight gains unrelated to running.

Of the sample, two in every three runners lost weight, while the other one usually either showed only slight gain or no change.

Losers typically dropped between 10 and 20 pounds. One-fourth of those surveyed did this, while 11% shed less than 10 pounds, 14% between 20 and 30, and 15% over 30 pounds. One runner claimed to have lost 100 pounds.

Of all the diet-related factors, reduced body weight seems to have the most dramatic effect on running performance. Fat is the enemy. And as was pointed out in the February 1973 series on physical testing, weight charts alone can't measure fat. The charts are deceptive because they don't take variations of body build into account. The only sure way to find one's own best weight is to have body composition studies taken. Regardless of structure, 10% or less fat is said to be ideal for runners.

Fat beyond 10% is the weight that slows them. "If you don't believe five pounds can make the difference." Hal Higdon wrote a few issues back, "then consider how fast you could run tomorrow if you had to carry a five-pound weight on your back."

Higdon said the best way to get rid of excess weight is to combine distance and dieting: "One of the important benefits of hitting high mileage is that you burn off calories. However, there is an easier method—dieting. To control your weight, limit your intake of calories."

Fewer calories means fewer miles are needed to burn them off, several writers say in *The Runner's Diet*.

**Fasting:** One way to reduce weight is to take periodic fasts. Weight-reduction, however, is only one of the benefits claimed. Another is giving the digestive system a rest, and a chance to clean itself out.

Only a small percentage of our readers do any serious fasting. Some 13% reported regular fasts of at least 24 hours. Typical runner fasts were 1-3 days, taken several times a month with water and juices being the only nourishment.

Park Barner's case is covered in the previous article. He fasts for a full day be-



fore races, on the theory that his body already will have enough work to do without having to digest food.

**Vegetarian diets:** Non-meat-eaters number only 6% of our sample. Though true vegetarians are rare, however, new evidence suggests that runners have no unusual need for protein. Even people who normally eat meat are now replacing it with starches on pre-race menus.

**Carbohydrate loading:** This is a technique designed to super-charge energy reserves in the form of glycogen (which carbohydrates produce). In simplest terms, it involves three days of high-protein eating followed by three days of high carbohydrates. It first drains fuel supplies, then packs them back in just before the race. Carbohydrate loading is said to be increasingly effective in races lasting a half-hour or more.

It has growing popularity among racers. Though the technique has only been widely known the last couple of years, about one in three (32%) of the racers we surveyed now use it. Users claim it lets them run longer while feeling stronger. But at least one doctor, Gabe Mirkin, has doubts about its safety for some individuals. More on this controversy later.

**Vitamin-mineral loading:** This subject is even more controversial. Widespread medical opinion is that overdoses of vitamins and minerals, beyond recommended daily allowances, is somewhere between useless and dangerous.

But one of the world's leading figures in sports medicine, Dr. Ludvig Prokop of Austria, says in *The Runner's Diet* that runners' needs are greater than non-athletes'. Runners, he says, need 2-4 times the intake of certain vitamins.

In our survey, 46% of the runners said they take vitamin-mineral supplements. The most popular are vitamins E and C. Twenty-six percent take E, 23% take C, and 16% use a combination of the two.

Magnesium and potassium reportedly are key minerals for athletes, but almost no one in this group supplements his diet with either of them.

**Special "athletic drinks":** An immediate need in long races, anything much beyond a half-hour in length and particularly on hot days, is liquid. Tom Fleming, second-placer at Boston this year, said afterwards, "There were thousands of people lining the way and each of them gave me a tremendous round of applause when what I really wanted from them was something wet to swallow. I felt like I had cotton inside my chest."

Water is good, but other substances

are better because sweat contains more than water and more has to be put back in. Water + sweetener + electrolyte drinks are available commercially, in an assortment of mixtures and flavors.

About 28% of our runners use such drinks before, during or after running. Most of them drink Gatorade, the most heavily advertised product. Gatorade drinkers account for 22%, with most of the others favoring ERG ("Gookinaid")—a drink specially formulated for distance runners.

**Smoking and alcohol:** Few if any runners smoke (tobacco cigarettes, anyway). But one in five of those questioned had smoked regularly before starting to run. Running apparently has some effect in motivating a runner to stop and in keeping him off the weed.

But while runners abstain from smoking, a large minority sees little harm in a friendly drink now and then. One in three allows himself this pleasure.

## A CASE FOR UNDEREATING

Even the scientific community isn't quite sure how the Tarahumaras do it. The Indians of the high mountains in northern Mexico subsist on what by American standards is a near-starvation diet. Yet they are the greatest endurance runners in the world. (See "The Super Runners," May 72 *RW*.)

The Tarahumaras race among themselves, in kick-ball relays, for 100 to 200 miles at a time. The runs go continuously for up to two days. American physiologists who have studied these Indians estimate that they burn up more than 10,000 calories during the runs.

Ten thousand calories, to a Tarahumara, is at least a week's worth of eating. They eat barely half as much as nutritionists recommend for athletes. Yet they can run for hours without tiring.

Where do they get their energy?

Part of it, of course, comes from the highly adapted systems they have developed by running every day of their lives in the thin air of the mountains. But their diet could be a factor as well. They eat what is available, which isn't much. There are no fat Tarahumaras.

Drs. Richard Casdorff of California and William Conner of Iowa studied the primitive tribe in 1972. They said the Tarahumaras "are essentially vegetarians deriving most of their calories from corn

and beans. Additional nutrition is derived from a variety of vegetables and fruits including potatoes, squash, pumpkin, chili peppers and citrus fruits. Occasionally, an egg will be eaten, and about once or twice a year as part of their festivals, goat meat will be ingested. But this is a rarity."

The Tarahumara diet, the doctors said, is quite high in carbohydrates and extremely low in protein. They naturally follow the "carbohydrate-loading" practice that modern runners only recently adopted. They are forced by environment, not fad, to be vegetarians. And they practice a form of fasting before their big races.

Michael Jenkinson wrote in *Natural History Magazine* that the Indians eat no fat, eggs, potatoes or sweets for 2-5 days before their day-long kickball matches.

You might ask, "But what would happen if these Indians were put on an 'adequate' diet? Would they run better?"

The Mexicans have tried that, with dismal results. They tried to recruit Tarahumaras for Olympic training. Jenkinson reported, "The Taramuhara lives mostly on corn gruel in the mountains. When he comes to an Olympic training camp, he is given beefsteak to eat, and his gaunt gut is filled with eggs and milk and other strange foods. His metabolism begins to run crazy. He doesn't sleep much, and when he does he has weird dreams."

These Indians aren't a quirk of nature. In other areas scientists are finding, often to their surprise, that light eating and endurance are complementary. Other studies have centered on another kind of endurance besides the ability to run long. These have involved long, healthy, vigorous lifespans.

The World Health Organization recently reported on tests by Dr. Joshua Cohen of Switzerland. Cohen measured the longevity of rats, comparing those on "normal" diets with those who were "underfed." The light-eating rats lived twice as long as their heavier brothers and sisters.

Dr. Cohen is now planning the same kind of testing on human volunteers, to see if light eating slows physical deterioration. He feels that by restricting calories, an individual can add decades to his life while giving him the strength and vitality to enjoy the extra years.

Dr. Alexander Leaf, professor at the Harvard Medical School, agrees. He has visited three isolated areas of the world—Hunza in Pakistan, Vilcabamba in Ecuador, and Abkhazia in the USSR—where men and women routinely live beyond 100. He wrote of these centers of longevity for *National Geographic*.

Dr. Leaf said these three groups shared several traits: (1) they live in

mountains; (2) they are somewhat cut off from the mainstream of modern life; (3) they give high status to the aged, and let them participate fully in the community; (4) their everyday lifestyle demands constant endurance activity; (5) they eat lightly, with the diets including little or no meat.

These features are least true of the Soviet Abkhazians, who live in lower mountains than the other two groups and are now beginning to enjoy "the good life." They now eat heartily and consume a normal amount of meat. But the old folks remember leaner days when they were young.

The diets of the Hunzans and Vilcabambans, however, are still sparse. Dr. Leaf wrote, "A US Department of Agriculture study lists average daily intake for Americans of all ages at 3300 calories, with 100 grams of protein, 157 grams of fat and 380 grams of carbohydrate." By contrast, I found the diets of Vilcabamba and Hunza strikingly similar to each other—and substantially lower than the US recommendations."

The averages among adults in Hunza were about 1900 calories, 50 grams of protein, 36 grams of fat and 354 grams of carbohydrate. Meat and dairy products made up only 1½% of the protein intake.

A study of the elderly of Vilcabamba showed that they ate only 1200 calories daily, 35-38 grams of protein, 12-19 fat, 200-260 carbohydrate. Protein and fat again were mainly from vegetable sources.

"The old people of all three cultures," according to Leaf, "share a great deal of physical activity. The traditional farming and household practices demand heavy work, and male and female are involved from early childhood to terminal days. Superimposed on the usual labor involved in farming is the mountainous terrain. Simply traversing the hills on foot during the day's activities sustains a high degree of cardiovascular fitness as well as general muscular tone."

The doctor tells of struggling to keep up with a 106-year-old on a six-hour mountain hike. When Dr. Leaf, then 52, returned to Massachusetts he immediately cut his caloric, fat and protein intakes and started a running program.

## LOADING AND OVERLOADING

"Carbohydrate loading" is a common practice among distance racers. It

involves eating larger than normal amounts of breads, potatoes, sweets, etc., the last several days before competition on the theory that this stores extra energy in the body.

Gabe Mirkin, a medical doctor, wrote in the March issue ("Too Many Carbohydrates") that this practice might be dangerous to some runners. He cited the case of a 40-year-old marathoner who tried "loading." At one sitting, Mirkin said, the man ate two loaves of bread. Later, he complained of chest pains. The doctor found he had an abnormal electrocardiogram, and attributed this to ischemia—a poor blood supply to his heart. As soon as the runner switched back to his normal diet, his symptoms disappeared.

Dr. Mirkin wrote, "This case points out that in susceptible runners, carbohydrate-loading can be a risky procedure. All excess calories can clog the arteries of the heart."

This article set off a controversy. A number of readers said Mirkin's methods were unscientific and his conclusions unfounded.

Here are three rebuttals to that article, all from doctors who also run. At the end, Dr. Mirkin answers their criticism.

### DR. MYRON SHAPERO

Dr. Mirkin says that "in susceptible runners, carbohydrate loading can be a risky procedure. All excess calories can clog the arteries of the heart." I take strong issue with this conclusion.

This is only one isolated case of an individual who, while preparing for a race incorporating a particular diet, developed chest pain and EKG evidence of diminished blood supply to the heart. In no way do we have any justifiable scientific right to conclude that this dietary variation was the cause of the runner's

cardiac problem. We must assume that this person has some sort of underlying coronary artery disease; in other words, a narrowing of the coronary arteries leading to the heart, which prior to this episode did not cause any symptoms.

I take issue too with the inference in the article that the carbohydrate load or excess calories "clog the arteries of the heart." This is extremely misleading and scientifically inaccurate. There are other reasons why one may show "ischemic patterns." It is not the scope of this article to point out other medical reasons. But it should be mentioned that all transient ischemic patterns may not necessarily be due to "narrowing of the blood vessels to the heart."

Dr. Mirkin's article also raises the question of medical supervision and medical guidelines in the screening of individuals before participating in aerobic activities (such as long distance running) and returning these individuals to full-time competitive involvement once a medical problem has arisen. Whether one who had demonstrated "ischemia" based on EKG findings should be allowed at any time to return to racing is a question all by itself and certainly warrants very close medical followup and supervision.

There were probably other facts surrounding this particular case. However, I am afraid that many athletes who read this have made false conclusions and associations.

### DR. THOMAS BASSLER

Dr. Mirkin's article presents us with an intriguing problem. Since ischemic heart disease has never been reported among marathon finishers (N Engl J Med 287:1100, 1972), we should look for another explanation for the clinical symptoms of this runner.



"Carbohydrate loading can be a risky procedure" or "a useful modern tool for the serious road racer." Which is it? (T. Duffy)



There are two: (1) Acute gastric dilatation; (2) Abdominal migraine. In both conditions there can be changes in the electrocardiogram (EKG) which are similar to the "ischemic" patterns but which are on a reflex or a spastic basis rather than a clogging of the vessels.

Migraine probably does not exist in this case because of the negative past history and the duration of the symptoms—over three days.

Acute dilatation of the stomach is the most likely diagnosis. The runner's weight (150 pounds) and racing success (2:50 marathon) suggest that he is not used to eating large meals. Any attempt to add "as much carbohydrate as he can stand" can be expected to give symptoms (and two loaves of bread added to any meal is classified as "overeating"). His symptoms fit this well: dull left chest pain with knife-like stabbing feeling while running.

Interestingly enough, lab tests might not have helped if the wall of the stomach had been damaged. The enzyme tests for damaged heart muscle would have been positive since stomach muscle contains them also. An x-ray of the stomach might have helped.

Death used to be common in cases of gastric dilatation when the cause was childbirth, surgery, trauma or other metabolic injury. However, when due to overeating (which is discontinued) we'd expect survival... as in this case.

I'd interpret this as a dangerous case of acute gastric dilatation due to overeating rather than ischemic heart disease. The duration of the pain suggests that the stomach wall was injured.

"Carbohydrate loading" can only lead to "clogging of the vessels" when the loading is done over a period of years and there are massive excesses in caloric intake. "Carbohydrate-loading" is a useful, modern tool for the serious road racer. Let's keep our criticisms of it on as scientific a ground as possible.

### DR. GEORGE SHEEHAN

My initial impression of Dr. Mirkin's report was much the same as Drs. Shapero and Bassler. I was unconvinced that this runner had indeed suffered any coronary insufficiency.

The EKG is a precision instrument, but its results are difficult to interpret accurately. We don't usually know what is causing these very precise T-wave changes.

Interpretation, therefore, varies with one's experience, training and mood at the time the tracing is presented to him. One man's ischemia may be another man's electrolyte imbalance. One man's coronary insufficiency can be another man's

excessive sympathetic tone. What Gabe sees as ischemia (lack of blood to the heart muscle) may be due to any number of transient physiological or metabolic events.

Without the EKG we simply have a patient with non-specific chest pains. With it we are no further along. An old professor of mine, Dr. Isadore Snapper, used to say "I don't know what happened, but I'm going to tell you what happened."

We don't know what happened, but subsequent events certainly suggest he had no significant coronary artery disease. What caused his EKG changes remain speculative. It almost certainly was not coronary disease.

This shows once more, if it still needs to be shown, that abnormal cardiograms in athletes should be considered normal or innocent variants until disease is substantiated by some other tests.

### DR. GABE MIRKIN

I am grateful to receive comments from the medical community. I agree that the article in *Runner's World* was hardly a scientific presentation. The *Journal of the American Medical Association* has accepted an article with a little more detail on the subject.

I have sound evidence to back the following: (1) Most physicians feel that some factor in the diet is most important as a cause of heart attacks; (2) There is increasing evidence to implicate carbohydrates and a high blood sugar as that factor; (3) There are many reports of a sugar load causing abnormal electrocardiograms; (4) A case of chest pain associated with a transiently abnormal EKG following a carbohydrate load is reported; (5) The conclusion still is that this may not be an isolated case, and carbohydrate loading in a susceptible individual could be dangerous.

Most medical authorities feel that coronary artery disease is the result of some dietary factor. There is much disagreement as to the specific dietary factor. At present there are two major dietary hypotheses: (1) Dietary fat causes coronary artery diseases; (2) Too much carbohydrate associated with too many calories is the cause.

Carbohydrates are receiving an increasing amount of blame. Medical literature shows:

- There has been a dramatic increase in heart disease, and the only dietary change of the 20th century has been the increase in simple carbohydrates.

- International statistics seem to implicate carbohydrates rather than fats. With few exceptions, societies that have a high fat intake also have a high carbo-

hydrate intake. The exceptions are the Eskimos and Samaru warriors who have a low carbohydrate intake, low cholesterol and low incidence of heart disease.

- The first molecule laid down in a cholesterol plaque comes from carbohydrate rather than fat.

- Almost all of the cholesterol in the blood is manufactured by the liver from any calories presented. A miniscule portion of the cholesterol comes from ingested cholesterol.

- There is a significant relationship between cardiovascular disease and hyperglycemia (high blood sugar).

- It has long been known that men, tested before heart attacks have decreased ability to handle a dietary sugar load.

Dr. Bassler states that carbohydrate loading can only clog the vessels when the loading is done over a number of years. There are many, many studies in medical literature to show EKG changes (flattening of the T-wave and ST depression) after a single carbohydrate load. It has been shown repeatedly that sugar loads can and do cause abnormal cardiograms.

Dr. Shapero has stated that: "In no way do we have any justifiable scientific right to conclude that this dietary variation was the cause of the runner's cardiac problem." I have presented a case report with supporting scientific data. It remains to be seen whether there will be similar reports in the future. At present, I advise caution to older runners using carbohydrate loading.

(A complete list of Dr. Mirkin's references is available on request. Write him in care of RW, Box 366, Mountain View, Calif. 94040.)

## STRETCHING THE ENERGY

BY PATRICK REID

Since the mile is a combination of aerobic and anaerobic work, repeated mile runs such as those in the 24-hour relay present the body with a unique form of distance running stress—far different from even the marathon.

Over the hours of repeated mile intervals, the stores of energy-producing glycogen in the muscles are rapidly depleted. The resting level of glucose is not nearly enough to cover the energy cost of running approximately once every hour around the clock.



“Chocolate bar halves and liquid between miles was sufficient to maintain glucose levels. (S. Sutton)

Glucose is the fuel for the brain, nervous tissues and red blood cells. As it drops to very low levels, a condition known as hypoglycemia occurs. It forces the runner either to slow down drastically or to drop out. Symptoms of hypoglycemia often include nausea, dizziness, awareness of extreme fatigue, and decreased motivation to perform at a high level.

Anyone who has competed in or observed a 24-hour relay is well aware of the effects of hypoglycemia. The early miles are handled easily, but after about 10-12 hours physical stresses start adding up. Performance deteriorates. Many runners are later reduced to a shuffle, or to a complete stop, and there's little they can do about it.

At the blood level, hypoglycemia or low muscle glycogen levels can be traced by analyzing the amount of lactic acid in the blood. Lactic acid is a byproduct of glycogen breakdown, so lactate can only be formed in the presence of adequate glycogen supplies.

Glycogen levels are influenced to a greater degree by *what* we eat and *when*

we eat. To be successful in the 24-hour relay, then, requires careful planning of food and liquid intake, in order to keep the body fuel supplies as adequate as possible throughout the day. Glycogen supplies in turn allow one to perform maximally, with less stress on the heart and other bodily systems.

Last year I undertook two experiments to learn more about nutrition as it relates to this new and strange event. In June 1972, I was a member of the Ontario Place Athletic Club team that broke the nine-man world record. Physiologist friends of mine took fingertip blood samples before and after each mile that I ran. I eventually contributed 35 miles at an average pace of 5:29, so my fingers were punctured 70 times!

Each sample was analyzed for levels of lactic acid. We found that the lactate level after mile number one was 64 mg.% (64 milligrams per 100 milliliters of blood). This high level showed that there was available glycogen in the system.

During the early part of the day, I ate very little. This was due partly to the excitement and partly to a fear of cramps that would possibly jeopardize my expected contribution to the team effort. I only drank water.

The blood analysis of decreasing blood lactic acid values throughout the day and evening showed that the muscle glycogen was depleting. My mile times also fell off a bit as my reserves of glucose were used up.

By the 14th hour, I realized that my poor regard to nutrition intake was severely affecting me. I started to eat sandwiches. There were problems digesting them, and they did me little good at this stage. My lactate values eventually dropped to 4 mg.% for miles 28 through 35!

Needless to say, I was greatly motivated by the fact that we were closing in on the record. Otherwise I would have had trouble staying on my feet. After it was over, my immediate reaction was to stay away from 24-hour relays.

However, I later found myself intrigued by this event and wondered how a team could conquer it with less stress than I had gone through. I decided to organize another relay, with a closer study this time of the nutritional aspects.

The second experiment consisted of four subjects—runners two, four, six and eight on a nine-man team. One was untrained, two semi-trained and one well-trained.

These four subjects were required to eat half of a milk chocolate bar before each mile they ran. Each piece of candy weighed a little over an ounce and provided about 84 calories. Those, along with

occasional orange halves, were the only solids they were allowed to eat. There were no restrictions on fluid intake volume, but they were limited to measured amounts of orange juice, lemonade, coffee or water. Everything ingested was recorded as to time, quantity and calories taken.

Besides analyzing the runners' blood, we kept careful records of a number of other physiological variables such as maximal heart rates, recovery rates, core temperatures and body weights.

During the 24-hour relay, all four runners of course felt fatigue. But the fatigue was not so severe that they felt they could not continue. (Even the untrained man contributed 23 miles.)

Following the relay and blood analyses, we graphed the four subjects' caloric intake and their mile times. We found that the mile times stayed remarkably constant. The well-trained runners averaged 5:09, with times varying only between 5:06 and 5:12.

All but one of the runners had post-mile lactic acid values over 50 mg.% throughout the 24 hours. The untrained man dipped to 40 mg.% during the last three miles.

Each of the runner's blood glucose values was very constant, with only a gradual decrease during the early morning hours (after 16 hours of running and no sleep). The ingestion of chocolate bar halves and an average of a cup of liquid between miles was sufficient to maintain blood glucose levels during the intermittent work of the relay.

While all of our test subjects finished without distress, other members of the team who were not on a restricted diet and who ate when hungry did drop out—as did members of all other teams. All of the dropouts experienced symptoms of hypoglycemia. We tried to get them to remember what they had eaten during the early part of the day. Most said, “Very little.”

## DO WE NEED EXTRA PILLS?

Ludvig Prokop is not a food faddist. The Austrian is one of the world's most respected sports physicians. His stand in the great supplements-for-athletes debate is that they are needed and can improve



performance. But he's careful to qualify his statements.

Dr. Prokop wrote about vitamins in *The Runner's Diet*. He cautioned that "vitamins only produce a demonstrable and subjectively noticeable influence on performance when errors are made in composition and amounts in the diet. With full-valued diet, if one adds even high amounts of additional vitamins, he can expect little positive effect."

His position is one generally held among doctors and dieticians: Added amounts of vitamins and minerals, beyond supplies in the normal diet, only improve running results by correcting deficiencies. If no deficits exist, nothing good happens. Money spent on supplements is wasted.

The debate centers on deficiencies. How common are they? And are they likely to occur in athletes more than in non-athletes? The lines on these questions are clearly drawn.

Some experts feel that the Recommended Daily Allowances (RDA) drawn up by the Nutritional Board of the National Academy of Sciences are more than satisfactory, and that the typical American diet provides all the nutrients required to stay healthy.

However, the US Department of Agriculture found in 1965 that two-thirds of the American population was below the recommended level in at least one nutrient. Another study showed that one in 10 school-age boys, and more than half of the girls had deficiencies in vitamin C.

A conservative diet expert's answer to this would be that the RDAs have built-in safety margins, and that most people can get by quite well on less than those figures.

Ludvig Prokop says a non-athlete may be able to do this, but not an active individual. He says, "In hard work, the need for various vitamins increases markedly, so that even with so-called 'normal' doses a deficiency can result."

Take vitamins C and E, for instance. They're the most common ones that athletes take in large doses. The American recommendations are 60 milligrams of C and 30 international units of E daily for grown men. Prokop, a European, quotes a slightly higher figure for C (70 mg.) and slightly lower for E (7-10 i.u.)—these for non-athletes.

But for speed/strength athletes, he has found the daily needs to be twice to three times as high. And for competing distance runners, he recommends 200-240 mg. of vitamin C and 30-50 i.u. of E. Both vitamins are said to be related to endurance and recovery powers.

Prokop warns, though, that these increased doses are only used to make up

for deficiencies. Overdoses "can easily disturb the balance and thereby decrease performance capacity."

But another part of the argument over supplements is what constitutes an overdose? Dr. Gabe Mirkin tells of an experience he had several years ago:

"I would take 500 mg. of vitamin C twice a day. I noted that whenever I stopped taking it, my recovery period from long runs was prolonged and my mileage would go down. I even wrote a newspaper article stating that vitamin C appeared to improve my endurance."

Then Gabe was injured. He quit taking his C. When he recovered, he found he didn't need the vitamin. His workouts were as good as ever and his races better than before.

"I attributed my earlier dependence to the fact that when I took large doses of vitamin C, my body required large doses," he says. "I didn't think much more about it until I read in a medical journal that mothers who took large doses of it during pregnancy have infants that developed scurvy (C deficiency) symptoms early in life."

Perhaps of more immediate concern to endurance runners is any deficit in minerals—particularly magnesium and potassium. Dr. Kenneth Cooper reported in *The Runner's Diet* that the most significant loss in distance running is magnesium. Drains in this mineral result in extreme muscle fatigue and cramping.

Now Cooper has backing from a team of French scientists working with another kind of athlete. Drs. B. Boursier and A. F. Creff tested soccer players. While normal blood magnesium levels are 50-62 milligrams per liter, the doctors found that only five players on a 14-member team fell in this range. The others were all below. Boursier and Creff said both endurance and recovery times were impeded in these players, and that the team had been doing poorly in recent games.

They gave the players supplemental magnesium, combined with potassium, salt and vitamin C. Magnesium doses were 8-10 mg. per kilogram of body weight. On game days, extra amounts of C (2 grams) and potassium were supplied.

Blood magnesium levels climbed back to normal, even above-normal levels, after this treatment, indicating the athletes would be able to work harder and bounce back quicker than before.

Ultra-marathoner Ken Young experimented with magnesium supplementation last year during a 100-mile run. He took Dolomite—a magnesium-calcium blend—to prevent cramping in the last half of the race.

"I found that two Dolomite tablets washed down with 3-4 ounces of Gatorade every three miles from 50 on worked quite well for me," he says. "In fact, I did not suffer muscular cramps during or after my 100-mile ordeal, although I was rather stiff for a few days."

Special diets: Are they a "total waste of money," as some nutritionists have suggested? Distance man Tom Hovey has one answer:

"A society that annually spends \$4 billion on candy, \$3 billion on soft drinks and \$11.5 billion on alcohol should think twice before criticizing those who spend a little money on stone ground flours, whole grain breads and cereals, pressed oils, or fresh fruits and vegetables grown without chemical fertilizers or insecticides."

He concedes, "There is no magic food or food supplement that is going to turn the athlete into a super performer. I am 43 years old and hope to break three hours in the marathon. I wish it only took a vitamin pill."

It obviously takes more than that. But when diet is inadequate, runners may need to spend some money on supplements to keep themselves from going deeper into nutritional debt.



# VITAMIN C'S BEST FRIEND

BY ROLAND ZECHMEISTER

All kinds of claims have been made about the healing powers of vitamin C, and none have been stronger—or more controversial—than those of Linus Pauling.

Dr. Linus Carl Pauling is currently a scholar in residence at Stanford University, where he formerly was a professor of chemistry. He has won two Nobel Prizes and has authored more than 400 publications, ranging from *Introduction to Quantum Mechanics* to *No More War!*

But none of those works brought as much attention as the slim book he published in 1970—*Vitamin C and the Common Cold*. In it he claimed that massive doses of the vitamin prevents or cures the cold and a host of other ailments. His findings are particularly relevant to the athlete because he says C wards off stress and speeds recovery from it.

Pauling's book has come under a great deal of criticism, with charges of "scientifically unfounded" and "dangerous recommendations" being tossed about. Dr. Pauling still stands by everything in his book.

"I myself take six grams a day at

the present time," he says. That's double his intake of a year ago, and it's 600 times the Recommended Daily Allowance.

Pauling feels there are no side-effects of high vitamin C intake and that the RDA (60 mg. a day) is so low and arbitrary that it is meaningless. He thinks man requires at least four times more of the vitamin than the National Academy of Sciences suggests—and that athletes need even more.

The optimum daily intake of the vitamin, Pauling has found in his research, ranges from 250 milligrams to 10 grams per person per day.

"There's little doubt," he says, "that exercise causes an increased requirement of vitamin C. The amounts I would recommend for athletes are, I think, in the upper range of the amounts that I recommend for people in general (.25 to 10 grams per day). More is required by people who are ill. I would think that something like six grams a day might be desirable for many people who are under stress of one sort or another."

Large supplies of the vitamin are available naturally in fruit and vegetables. But Pauling contends that to get the

**"Three to four ounces of Gatorade every three miles worked quite well for me." (Paul Sutton photo)**

amount he advises, we'd have to eat these all day. It's easier to take it in the form of tablets or crystalline powder. The powder is most economical, according to Pauling, selling for \$5-7 per one kilogram bottle.

He sees no reason to spend extra money on so-called "natural" vitamin C—the "health food specials," he calls them. He says synthetic ascorbic acid is equally effective and much cheaper.

Pauling relates, "There's no doubt that natural ascorbic acid is exactly the same as synthetic ascorbic acid. This (synthetic) molecule is a small one with only a little over a dozen atoms in it, and there's just no doubt that it's the same.

"Now if you ask is the vitamin C tablet as good as a glass of orange juice containing the same amount of vitamin C, then I would say that the glass of orange juice is better. The orange juice contains other nutrients. Six ounces of orange juice contains, on the average, 90 milligrams of vitamin C. I'm sure that I am better off taking (my C requirement) entirely in the form of orange juice, but I would have to drink 67 glasses of orange juice each day... You can't get a good diet that contains the amount of vitamin C that people need."

The best method of taking vitamin C, Pauling believes, is to take regular doses at regular intervals throughout the day rather than taking it all at one time. One reason for this is that some people experience a laxative action if two or three grams are gulped down at once on an empty stomach. This could of course cause considerable inconvenience to a runner.

"This can be avoided," Dr. Pauling says, "by taking the vitamin at the end of a meal, and by taking it in smaller doses—say, every hour if necessary."

He believes that in the case of injury, a larger intake of vitamin C, along with some vitamin E, is desirable to promote healing. He advises taking E in doses of "perhaps 400 international units per day."

Only man, the gorilla and the guinea pig, of the higher animals, can't synthesize their own vitamin C. So all of these species have to get it from their food. Pauling figures the gorilla eats 4.6 grams of C a day.

When asked why the gorilla eats this much while the human American is told he requires only .06 grams per day, Pauling answers that it is because gorillas aren't limited by their own council on nutrition. He says the American nutritional council has no basis for its values, and that people who follow this RDA are risking chronic deficiencies. Athletes risk them more than inactive individuals.





# ADDING INSERT TO INJURY

*Preventive medicine is the runner's best hope,  
and prevention begins at ground level.*

*by Joe Henderson*

George Sheehan, *RW's* medical advisor, gets 10 or so letters a week from ailing runners. This one started, "I have been prescribing to *Runner's Ward...*"

At first it sounded like a fumbling of words, or perhaps a put-on. Or was it? As the carnage in this supposedly non-violent sport mounts, *RW* does sometimes begin to look like a hospital ward which deals out prescriptions to the wounded.

When you're in a position to see the total number of casualties, as Dr. Sheehan is, you can't help feeling a bit depressed over the apparent lack of effective preventive and treatment techniques. It makes you wonder, is everyone who runs a likely victim of running's wear and tear?

Not long ago, *RW* surveyed its runner-readers. Sixty-five percent of those responding had suffered running-related injuries serious enough to require medical attention or curtail running for at least a week, usually longer. But the figures—six-plus victims in every 10 runners—don't capture the amount of pain endured, dollars spent on symptomatic relief, worry over recurrence, or seasons—even careers—ruined.

One runner, a 4:11 miler and a 2:26 marathoner, has been at this sport for 11 years—many of those years in pain, it seems from his medical record: (1) bone spurs on both heels, finally requiring surgery and a three-month recuperation period; (2) pulled calf muscle, two months off; (3) injured foot, three months; (4) shin splints, recurring, two to four weeks of reduced activity each time.

It's a credit to this man's persistence that he has stayed with running through all this, and has come out of it faster than ever. This only happened when he found a doctor—in his case, a podiatrist—who didn't treat effects but sought out and corrected causes.

An old Chinese proverb says, "The inferior doctor treats actual illness. The mediocre doctor cures imminent illness. But the superior doctor prevents illness."

Preventive medicine is the direction runners and their doctors are going to have to go, together, if the risk of ser-

ious running injury is to be reduced from the current and unacceptable 2 in 3 odds.

This was the first meeting of its kind, according to its organizers at the California School of Podiatric Medicine. The topic was this problem of wear-and-tear injuries in the feet and legs of athletes, and what can be done to prevent them. The doctors call these injuries "overuse syndromes."

The two-day symposium in San Francisco during late April was unique because it took in runners, coaches and athletic trainers as well as doctors. The runners themselves got to present their case.

George Sheehan was the first speaker. He's not a podiatrist. His usual realm is the heart. But as a runner and an advisor to runners, he has come to definite conclusions about the kinds of things being talked about at this meeting. "I'm here as the player's representative," Sheehan said.

He said the foot doctors, who made up about half of the audience, are onto something very important—not only for athletes but for everyone who moves on two legs that sometimes hurt.

"This weekend will go down in athletic history," Sheehan predicted. "It will be a landmark. What you doctors are saying is no less revolutionary than what Copernicus told us 500 years ago. He said the earth is not the center of the universe. The sun is. You're saying the foot is the center of the runner."

The foot, the podiatrists say, is the source of the great majority of athletic injuries—not only foot injuries, but those in the ankle and shin and knee and on up to the back. The foot meets the ground, and when it strikes improperly the entire leg works improperly. When that odd shock is taken up a thousand times a mile, there's trouble at the most vulnerable points.

It isn't important to know the mechanics of it. The point is, podiatrists have determined that from 50-70% of athletes studied have foot abnormalities which could lead to trouble when put under enough stress. Sixty-five-plus percent of our runners surveyed had been injured. Coincidence?

The team physician for a National Basketball Association club reported that in his experience he had seen only one player with a "normal" foot. That player had been in the league 11 years, and had never suffered a foot or leg injury. Coincidence?

The foot doctors don't think so. But simply knowing the source of the problem and knowing what to do with it still leaves them a long ways from being able to deal most effectively with it.

They've only recently opened the gate on a new way to handle athletes, and they've staked out the rough boundaries. Much exploring remains to be done inside the boundaries.

"We've found something," Dr. Sheehan said. "That's the good news. Now we have to learn what to do with it. That's going to take some work, a lot of arguing, trial and error before we find the best answers. But we're going in that direction."

It's fine to back-pat podiatrists. They deserve it for what they've found. But where do runners find these specialists when they need them? Not many places, sad to say.

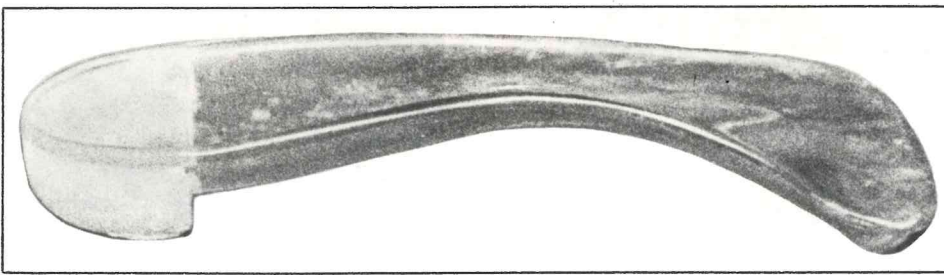
"We only graduate 300 podiatrists a year—six a state," George Sheehan said. "When we take those interested in our (runners') problems, it goes down even more. And very few of these are yet accepted as part of the sports medical team. We need a specialist, but not many are available. This won't come until podiatry reaches the point of acceptance that all other specialties have."

Compounding this shortage are the facts that (1) not all podiatrists appreciate the special needs of runners (Dr. Thomas Sgarlato said, "Mechanics differ from one sport to another and even within a sport. The needs of distance runners are as different from sprinters as runners are from football players and football players are from non-athletes."); and (2) federal aid to podiatry colleges will soon be reduced to zero.

This puts the burden on foot doctors already practicing their form of injury prevention to spread the word to others in their profession, and to other medical men as well. This isn't easy.

Dr. Sheehan noted, "If I were to





suggest to the average doctor that the common clinical problems in runners are forefoot varus, narrow subtalar range, equinus influences, subtalar varus, gracile foot and a short first metatarsal, I would expect three possible reactions.

"One, he would not know what I was talking about. Or two, he would know what I was talking about and think I had lost my reason. Or three, he would know what I was talking about, and even believe me, but know of no way to remedy these conditions."

"Yet," Sheehan said, "these foot disorders (for that is what they are) are the principle reasons runners have such symptoms as achilles tendinitis, heel spurs, metatarsalgia, shin splints and runner's knee. Therefore, proper treatment of the foot is the only way to clear up these foot, leg and knee pains."

Tom Sgarlato, a professor at the California School of Podiatric Medicine, advised doctors "to look at little things—eighth-inch variations in leg length, 5% variations in movement." Sgarlato recently headed a team that studied the entire track squad at the University of California, filming runners then analyzing the movies one frame at a time for variations from the norm in foot plant. He detected sources of injuries that had mystified runners and coaches. This is what he meant by "little things."

All speakers agreed, too, that runners themselves share the blame for their high casualty rates. As a group, they are suspicious of the medical profession—sometimes with good reason. Runners, speaker after speaker said, are both stubborn and impatient. They refuse to seek medical help until they can no longer run. And they start running again as soon as an injured extremity will bear weight.

One podiatrist shook his head as he said, "I see my average runner-patient only once. Either he's cured and wants no further advice, or he goes to another doctor, or he gives up on doctors completely and tries to treat himself."

Since so many runners insist on self-treatment, or have only this type available, these doctors felt it important to let runners in on the "Master Plan" of injury prevention.

### A rigid plastic "orthotic" designed to support arch and heel.

From this meeting, and from other medical advice being written about running, the picture of a three-part Master Plan is coming into focus. Think of it as a triangle with each of the sides needed to support the other. Those three are:

- **Stress**—Everyone needs a certain amount of it, and a specific type, to improve as a runner. But everyone also has his breaking point. The key to running health and improvement is finding the proper balance. (Ian Jackson's May *RW* article, "The Root of All Training," summarizes stress theories.)

- **Muscle Balancing**—Runners tend to become overspecialized. Their straight-ahead running makes them extremely strong in certain muscle groups and weak in others. The resulting tightness and uneven tugging leads to injuries, experts say. (Weight training proponent John Jesse recommended at this conference that runners strengthen little-used muscles. Nearly all the doctors advised doing stretching exercises, such as those outlined in "The Runner's Final Stretch," Jan. 73 *RW*.)

- **Biomechanics**—This, basically, is the way the foot meets the ground. Running form has something to do with it, and so do the shoes runners wear. But mainly we run as we were born to run, and this is mechanically incorrect in 50% or more of us.

The doctors in San Francisco were concerned mainly with biomechanics. They said the way to treat a poorly functioning foot is to adjust the way it meets the ground. For this, they recommend custom-made inlays for running shoes. Podiatrists, who specialize in fitting these supports, call them "orthotics."

Though they agree that these orthotics are needed by most runners, foot doctors are still arguing about how these should be made and of what material. Some say runners need more support than most people because they're under more stress; some say less support because

runners need more flexibility and range of motion. Some argue for rigid orthotics; some say soft ones.

Richard Schuster of New York said, though, "You can stuff Kleenex in that shoe and it will help if it's in the right place."

Schuster thinks he is close to finding the right places to put support, thereby solving many of the mysteries of running medicine. He has been treating runners for four years and "we haven't had a complete failure in that time. Notice I said *complete* failure."

And Dr. Schuster, along with his colleagues, is still getting mostly victims in his office. Runners hobble in to see him after the damage is done. The real value of the podiatrist's work, however, will be in stopping damage before it happens.

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## WHEN IT'S HOT, YOU'RE NOT

*The "Pay Now, Fly Later" plan for  
adapting to distance racing  
in summer heat.*

*by Ron Daws*

Ron Daws lives in one of the coldest states in the country—Minnesota. Yet he is known as one of the US's best hot-weather runners. In two successive years, 1967 and '68, he qualified for national teams on hot days. It wasn't always that way. He suffered as much as any other runner before learning some secrets of heat adaptation.

It was nearly dark and still oppressively hot as I crawled out of the back seat of the car. The hour's drive from the Yonkers hospital had nauseated me as much as the marathon 10 hours before, and a few steps from the car I sagged to the sidewalk. Nat Cirulnick's wife bent down and surveyed me critically. Obviously embarrassed, she tried to coax me into their house.

I focused on her through half-open eyes while wearily explaining that I would surely get sick again if I tried to get up.

"All right," she sighed, disappearing into the house for a moment and returning with a pillow which she squeezed between my head and the cement.

It was 10 p.m. in Queens, N.Y., and I caught glimpses of the occasional couples that strolled past. Faced with the bizarre obstacle of a man sprawled out across the walk, they sidestepped around me with legendary New Yorker unconcern. As their images faded and I lay there unable to get up, I began to ask myself just how the hell I could have gotten into such a fix.

At mid-day, nearly 200 already half-cooked runners had hit the melting and sticky streets of Yonkers. The temperature was edging toward the 96-degree mark, the high for the sun-scorched afternoon. The occasion was the combined 1964 Olympic Marathon Trials and national AAU championship, and it was only such bait that lured so many runners on to the roads where the surface temperature simmered at 140.



**LEFT: Walkers Tom Dooley (l) and Bill Ranney cooling off after a race. (Stan Pantovic)**

**ABOVE: Marathoner Bob Scharf, dressed for the heat. (J. Johnson)**

Two hours later and 18 miles into the race, my heat regulatory system failed and I could no longer sense if it was hot or cold. I somehow kept moving through 25 miles, where I found myself in the respectable position of 10th. But the heat, sun and humidity had extracted their toll.

Heat cramps infested my legs. I lurched for a telephone pole and embraced it for support. The last uphill mile to the



finish was like climbing up a down escalator wearing roller skates. I stumbled in to salvage 15th place in 3:25, but was outrageously dehydrated, exhausted and sick. The seven hours after the race were a fight for consciousness. I was hospitalized and released, only to be readmitted again after being discovered unconscious in the shower room. I was finally released again six hours after the race but vomitted before the return ride to Queens.

At 10:30 p.m., recovered enough to keep down a cup of bouillon which kind Mrs. Cirulnick spooned into me, I was finally able to crawl off her front walk.

That was my first encounter with racing in extreme heat, and I swore there would never be another. The fiasco might have ended there except for the enigmatic question that nagged at me. How had Buddy Edelen, training in chilly England, managed to spit into the eye of the sun and outdistance the entire field by over 20 minutes in an amazing 2:24?

Part of the answer was to be revealed by Edelen himself, and, armed with his tips, I eventually put together a system which would greatly enhance my capabilities for functioning well in hot conditions.

Edelen, according to the press, suspected that the Olympic Trials in June would be hot. The temperature in England during April and May hovers around the 50-degree mark. Therefore, if Buddy was to teach his body to endure the stresses of heat he would have to create his own heat to train in. His solution was amazingly practical and simple. He worked out wearing five layers of clothing. That act symbolizes the principal truism of heat training:

*If you want to race well in heat, you must train in it. If the weather is cool during your preparation, you must create your own conditions of heat.*

In subsequent discussions with doctors and physiologists, I discovered that not many knew much about the body's heat adaptation process. Even Edelen's coach, Fred Wilt, later told me that he wasn't sure if there was such a thing. But believe this, there is, and the difference in racing was to be impressed upon me three years later when I again found myself lined up in the national AAU marathon in 96-degree heat—this time for a shot at the Pan-American Games team...

If there is no chance that race conditions will be warm there is no purpose in heat training. In northern climates, for instance, there is no value in heat training for cross-country. Normal climatic conditions during August and September, when much of the base training takes place, will be much warmer than October

and November, when the important races occur.

The most advantageous heat training is done in early spring, preparatory to important races which are likely to be held in hot weather. Opinions differ, but most knowledgeable physiologists agree that it takes from nine days to three weeks to acclimatize the body to this type of stress. I would recommend three weeks.

But understand this, the real trick is not knowing how or when to do it, but convincing yourself that it is important and then resisting the temptation to shed the clothing.

Take the case of many runners. Every spring, as soon as the mercury pokes its nose above the 40-degree mark, it is harder to keep runners in sweats than it is to sell saunas in Death Valley. Jackets, sweats and fur-lined jocks are traditionally traded for Coppertone, string vests and shorts. But don't be suckered. This is the "Fly Now, Pay Later" syndrome. Instead, use the "Pay Now, Fly Later" plan and keep your sweats on to simulate hot weather.

If you decide to pay now, realize that on some days you will be miserable. If you are not, add more sweats because adaptation will not occur unless you undergo periodic stress work in fairly uncomfortable heat. Fortunately, relief is in store because you can't heat train every day. Apparently the body has difficulty fully replacing liquids and salts, and requires longer than 24 hours to recover. Day-after-day heat training will only wear you down mentally and physically.

One reason most runners don't like to do this kind of work (apart from feeling crummy) is that the other guys will be relatively stripped and cruising along in comfort. If you work out with them understand that, other factors being equal, you won't be able to keep up. It is at these times that it will require a herculean effort to resist shedding the clothes.

To facilitate decent training at these times, drink plenty of liquids before and during the workout. Many runners think that a pint of water 15 minutes before a run will hurt them, but just the opposite is true. For road runners it is important get used to drinking profusely before and during the run.

Let's say that you are preparing for a major distance race to be held in early summer, and that during the three weeks before the big day you have been deliberately bundling up three or four days a week to suffer it out. On the other days you have run comfortably, but with enough on so that you have not been acutely cold. Your training has been similar to what you would normally do, but neces-

sarily slower because of the extra clothing. On some days you have cranked out a hard distance or interval workout and have definitely been uncomfortable.

The last two or three days before the race, forget about heat training. Do not dehydrate or exhaust yourself. In fact, take in extra liquids the day before. Drink right up to the race. Again 10-12 ounces 15 minutes before the race will not hurt you. This can be water, Gatorade, ERG or whatever you prefer.

What you wear during a hot sun-drenched race is also critical. Stay away from dark colors. They absorb solar radiation. Wear white—white shorts and a loose, short-sleeved T-shirt. Everyone knows that it is cooler in the shade, so create your own shade by covering your shoulders. The sun strikes down almost perpendicularly here and a lot of heat can be generated on bare skin. Don't worry about air flow and evaporation. Just keep the shirt wet. As it evaporates dry and cools, it will refrigerate you.

Don't neglect your head. Wear a cap—white, of course. If it is really hot, a white hanky pinned on the back will keep the sun off your neck. As you dump water over your head during the race, you will get tremendous cooling on the neck and head. Remember, at least 10% of the blood supply goes to the head so this is where you want to generate as much cooling as you can.

I shouldn't have to mention drinking during the race, but I will briefly. To wait till you are thirsty to begin drinking is to invite certain disaster in a long race such as a marathon. Start drinking as soon as you can and slow down or even stop briefly if needed to get it in. The time lost here, or a bit of sloshing in your stomach, will be kids' play compared to the effects of dehydration. Cold drinks are best and I would advise laying off those with citric acid, such as orange juice. Resist these after the race, too. A lot of runners, including myself, can't keep them down afterwards. Water and cola seem to be okay, also bouillon.

As a final word on racing in the heat: keep your head when the gun goes off. Resign yourself to the fact that you can't run as fast, so don't go out like you are running to keep warm. Start out extra easy and let the rest of the pack melt itself into the pavement. You can always pick it up later if you have started slow, and there is nothing so encouraging as to be hauling down wave after wave of half-roasted kamakaze runners. On the other hand, if it is you that blows up, it will hit you so fast you will have to look down at your feet to see if they are still moving.

In 1967, the national marathon cham-



pionship and Pan-American Games Trial was held in Holyoke, Mass., in early June. I was heat trained this time but still apprehensive when, on the day of the race, the temperature again climbed to 96. In the dressing room I had to smile when I saw runners the likes of Tom Laris sporting beautiful tans, because this signaled that they had been flitting along in nothing more than shoes and shorts.

Heat trained or not, I let the leaders go when they sprinted down the four-mile hill from Mountain Park. I was still jogging along at nine miles when I was astonished to see in front of me one of the top US runners, flapping around the road in a circle like a wounded duck. Shortly after, the air was filled with ambulance wails as runner after runner collapsed by the wayside.

By 18 miles I had worked my way from the back of the pack to third place. The top two made the Pan-Am team, so I began to watch for my next victim. At 19 miles I spotted Tom Laris weaving along the side of the road. I still felt tremendous and quickened my pace to overtake him. I never got the honor. A few steps later Laris quit, claiming afterwards that his health was more important.

Now only one runner remained in front. And I was able to haul him down at 20 miles and run comfortably up the four-mile hill back to Mountain Park. I finished three minutes ahead, undistressed, in a shade over 2:40. I could have run 2:35 if necessary. A position on the Pan-Am team was mine, not because I was inherently the better runner but because on that particular day I was able to cope with the conditions.

## COOPERATING WITH NATURE

BY GEORGE SHEEHAN, M.D.

The animal moves through this life with certainty. He appears to know exactly why he is here, where he is going and what to do about it. The animal gets in trouble only when he accepts domesticated goals or civilized life styles. The horse may die from running in a race. The pampered pet grows gross and dependent. Disaster occurs when human reasoning replaces animal instinct.

"Man is surely farther from the truth about life," wrote James Thurber, "than any other animal this side of the ladybug."

At the Boston marathon, only 700 of the 1400 starters certified as being capable of running a marathon in 3:30 actually did so. Almost a dozen ended in hospitals with exhaustion, and hundreds of others walked in long after the officials had departed. Again it was a case of inadequate human knowledge replacing the fundamental intuitions of the body, of man-made goals and predetermined pace taking precedence over the subconscious perceptions the runner gets from his body.

At Boston this year the problem was not simply the 26.2-mile distance. It was distance compounded by heat. Pa-

**Anything that lowers external or internal temperature is beneficial.**  
(Jeff Johnson photo)



triot's Day came up as predicted, unseasonably warm. At 79 degrees it was the hottest April 16 in the history of Boston.

Optimum temperature for long distance running is 40-45 degrees (Ron Hill's record Boston Marathon was run in 42-degree weather.) Each additional 10 degrees makes the course run longer, just as a golf course plays longer in certain weather. And the best way to handle this additional load is attention to the three P's: Preparation, Pace and Perspiration.

Experienced runners like Ron Daws have found they can prepare their body for hot weather. Still, prepared or not, the body cannot pursue endurance runs in hot weather at a cold weather pace. Part of the oxygen capacity of the system is necessarily given over to heat dissipation and withdrawn from the work output.

The pace then is crucial. The runner's body must accept all this confusing meteorological data and come up with the pace-of-the-day. That pace is no less than the maximum pace than can be held indefinitely. That, in essence, is what the ultimate experimental animal, the human being, is attempting to discover in this ultimate human experiment, the Boston marathon.

This pace, however, is also determined by how the runner handles his perspiration balance. Perspiration must be completely replaced, and to do this you must start early. Some runners go from one cultist idea to another. Drink nothing. Do not drink before the 10th mile. Drink only thus and such.

But the body tells you the truth and that is to take as much water as you can get, as soon as you can get it. The body seems to know early on that the runner will sweat out four to five quarts of water, will lose quantities of salt and potassium and will have a rise in temperature to 104 degrees.

Relying on his instincts, the runner begins to know what levers to trip, what trough to feed from. He lets his body take over. He listens and learns.

Most of all, the runner learns to listen. Having gone through the peril of the Boston he now recognizes that his survival comes from within. The danger is always from without: man-made goals, book-learned pace, hypothetical diets, and so much more that has to do with life style and values and guilt and compulsions.

The runner realizes that he becomes more rational as he becomes more animal.

"The finer mysteries of life," Thurber had added, "may be comprehended only through instinct." To be a man, it is not enough to have guts. You must listen to them.





*Yet its running  
community is growing.  
Here's how runners  
adapt to that  
island's weather.*

Guam's runners, on the road  
after a typical tropical rain.

## GUAM'S WARM ALL THE TIME

*by Joe Lawton*

Heat and humidity are constants on Guam, an island near the equator with a population of about 100,000. Runners there can't escape the sticky warmth, so they learn to live with it. Joe Lawton, who teaches at the University of Guam and directs the San Miguel marathon, offers advice not only for the visitor to that island but to all runners who want to make heat more tolerable.

Road runners have been a common sight in the northern and coastal US for many years. Lately, the dogs even bark less at passing runners in temperate areas such as Florida and southern California. But even today one would hardly expect to find full-scale blacktop pounding on a tiny South Pacific island 5000 miles southwest of San Francisco. Yet on Guam there is a running program ranging from marathons to mountain climbs, turkey trots to track meets.

If you live about 35 degrees latitude, you probably either imagine that it's simply too hot to run near the equator, or else have fantasies of training there in January with no sweatsuit, mittens, or hat. Regardless, with both running and travel increasing, you may find yourself in the tropics for a few days of business and pleasure. Perhaps you can draw on the experience of Guam runners to make your training enjoyable and productive.

After arriving at his "island in the sun," the runner takes his first workout—and finishes exasperated. He runs hard, sweats profusely and may even feel that the workout was successful. But the stopwatch says differently. Eighty-second

quarters feel like 65s; four miles hurt like seven. At this point, the runner either sighs and spends the rest of his vacation by the hotel pool sipping gin and tonics, or wisely changes his habits and runs early in the morning or late in the evening. Since the sun regularly rises and sets at about six o'clock near the equator, the best times for workouts—6-8 a.m., 5-7 p.m.—remain pretty constant.

The goal of training in semi-darkness is to escape the debilitating effects of the sun, as the temperature actually drops little (say, 85 to 72, with a 15-degree change abnormal). Consequently, competition on Guam is held at unappealing hours like 4:30 a.m. (marathon) and 4:30 p.m. (track meets). When lights were recently installed at the high school tracks, and meets were held with *no* sun, virtually every Guam track and field record fell within a month.

Whatever the visitor does, however, he will not completely adapt to tropical heat and humidity in a short time. Acclimation usually requires from six weeks to six months. In even a brief visit, though, the runner can increase his outdoor comfort if he avoids closed, air conditioned hotel rooms, and instead searches out lodging where he can throw open the windows and let the trade winds blow through.

Newcomers sometimes question whether seeing the sun every day does not become "boring." But this is tantamount to the non-runner's belief that running is "boring."

While this pleasant weather may tempt one to regard clothes as unimpor-

tant, they demand special consideration. Chafing is a large problem. At tropical temperatures, chafing not only occurs more readily wherever there is friction, but has harsher repercussions. This means that friction must be reduced, especially with critical garments like the supporter. Of the various nylon items which may solve this problem, the simplest and best is a pair of women's bikini panties. Their only disadvantage is psychological: some men are too embarrassed to hang a size 8 bikini with a blue bow in front, out on the clothesline to dry alongside a pair of 11½ Bostons.

Nylon trunks are superior to cotton not only because of less chafing, but when cotton trunks load up with sweat a case of droopy drawers develops. Cotton also rots fairly quickly in the tropics, while nylon lasts indefinitely and is ready to wear each day after being rinsed in the shower following the previous run.

Chafing is the critical problem of all trunks, however, and when one acquires a friction rash from a run the rash must be quickly treated. Bacteria thrive in hot, humid climates. Consequently, rashes and sores develop more quickly, and it is more difficult for the body to fight them—especially for the first few months in the tropics until one's immunity increases.

Visitors to this area are frequently surprised to learn that a minor scratch which would quickly heal in a temperate climate may become infected, and even turn into an odious "Guam sore." By the same token, rashes sometimes develop in the armpits or crotch, consequently preventing running because of the pain in-



volved in moving one's limbs. To complicate this matter, it is not advisable to lubricate friction areas with petroleum-based products such as Vaseline, because bacteria proliferate better in it. One Guam runner tried friction-reducing preparations found in sporting goods stores. He reports that some of them, indeed, eliminate the discomfort of friction, but that two days later the skin sloughs off.

If skin irritations or scratches occur in spite of proper clothing, immediately apply a good antibiotic ointment (the kind that costs two or three dollars for a small tube). This will usually check the problem, whereas a delay of just a few hours often will lead to considerable discomfort, or even the inability to train for perhaps a week or more.

The tropical humidity also causes shoe problems. Unless they are used for only a few miles a week, leather shoes are unsatisfactory because damp leather rapidly deteriorates. It's easy enough to dry them, of course—but they soon become so brittle that one has to soak them for several minutes to make them pliable enough to put back on.

Nylon shoes are far superior to leather, with canvas a second choice. Canvas will rot eventually, but more slowly than leather. Interestingly, on nylon shoes with leather heel and toe patches, the patches often rot long before there is enough wear on the nylon uppers, or the soles, to warrant discarding the shoes.

Other than these times, one should have a headband to keep the sweat out of his eyes. This is the only piece of gear required in the tropics which can be omitted elsewhere. Socks are best avoided because of local plants such as sandburs and beggar's ticks which cling to clothing. Shirts are not popular on Guam, although some of the better runners use a fishnet shirt and believe that it keeps them cooler. Shirts can be helpful if one is running during the heat of the day. A few minutes' relief can be gained by soaking a T-shirt in water before putting it on. But this is a poor substitute for running a few hours later when it is much cooler.

In addition to running at the most comfortable time of the day, and selecting the proper clothing, it is also important to choose the most auspicious place to run. City parks are frequently a wise choice in the States, but land is too precious on small tropical islands for large parks to abound.

Their close relatives are golf courses. They are quiet, safe, soft and sometimes provide as much as four or five miles of running around their perimeters. Golf courses are not only cooler than urban areas and roads because of their greenery,

but they usually have drinking fountains as well. This is important, especially for the visitor, because he will be thirsty after just a little running. He will find that one of the body's earliest adaptations to tropical running is the ability to drink a fair amount of water while running without upsetting the stomach.

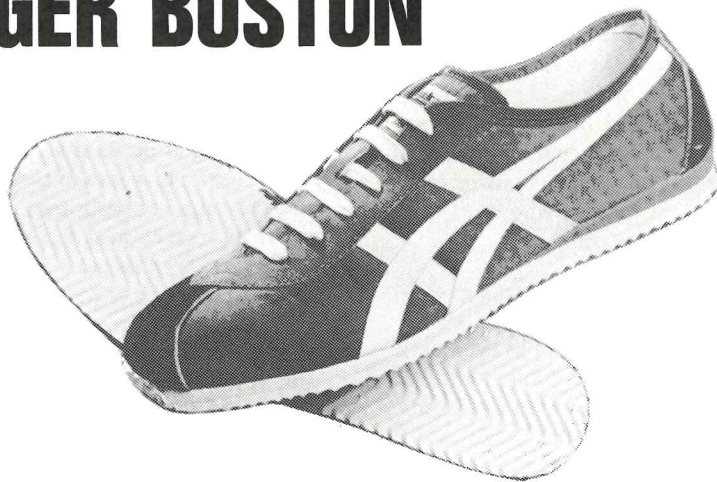
Even though running on roads and streets is hot, entails foul air, and is likely to parboil the feet, the runner sometimes has no alternative. In this case, gas stations are particularly welcome. The runner can grab a drink and douse himself with the water hose in just a few seconds. If one has enough hair to soak up a fair amount of water, this practice will offer pleasant relief for a couple of miles, and is well-worth the time lost. Better yet, if the run ends near the beach, a refreshing finale is to plop into 83-degree ocean water. This cools the body in a fraction of the time it otherwise takes—

even under a shower.

The best time to visit the tropics is while the trade winds are blowing, which in Guam is from December to about March. The breezes keep everything cooled off and provide the most comfortable weather. This is also the dry season, and there are fewer thundershowers at this time. One should not necessarily avoid a tropical downpour, however, for the runner may find that even in fighting a wall of water and sloshing through a two-inch run-off he can run his best times because of the corresponding cooling effect.

Still, one must be resigned that his times will be slower in the tropics. It is perhaps never possible to completely adapt. Most runners find that they gain several seconds in the mile, and several minutes in the marathon when they return Stateside. So even though the runner may *feel* comfortable, his running machine definitely prefers cooler climates.

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# YOUNGEST OF THE MARATHONERS



**KEVIN STRAIN**

Last August, Kevin Lee Strain finished eighth in the Juneau marathon, a race conducted semiannually in the Mendenhall Valley of Alaska. His time was 6:56:33. Not much of a time, you say? Well, I should mention that Kevin was only five years and 69 days old at the time, apparently the youngest runner ever to complete a marathon.

Still only six, Kevin is already a four-year veteran of record breaking. He has been setting world age-group marks with amazing regularity since he was two. He has held almost 40 age records in his young life.

Kevin set his first record as a two-year-old in Apia, Western Samoa, where his father Floyd was coaching the Samoan Olympic track team. In the years since,

Kevin has held marks at all the way from 100 yards to the marathon.

The Strains now live near Juneau, where Floyd is a junior high physical education teacher and coach. Kevin, who is 3'7" tall and weighs 41 pounds, works out regularly with his father's track and cross-country team—and usually runs in cross-country meets with them. More than one junior high runner has had the ego-shattering experience of being soundly beaten by this six-year-old.

To prepare for his first marathon race, Kevin logged up to 60 miles a week, mostly in daily nine-mile runs. In addition, he and his father habitually walk the seven miles to church every Sunday, and Kevin frequently runs the four miles home from the supermarket after shopping trips with his mother.

Kevin's diet has always been as "natural" as possible, with little or none of the over-processed, over-refined foods that are so common in the American diet. Young Strain does not eat candy or drink soda pop. Instead, his diet includes abundant quantities of fruits and vegetables, whole grain cereals and homemade whole wheat bread. Even in infancy, Kevin was

fed pure homemade strained fruits and vegetables rather than the usual supermarket baby foods with their many unpronounceable chemical additives.

Why does Kevin run? Floyd Strain's answer to this surprised me:

"I started Kevin on a running program in order to help him develop the mental discipline that he will need to succeed in whatever he attempts in later life."

According to his father, the pattern of success that Kevin is now developing in age-group running will certainly be a big help in maintaining his confidence for success in whatever tasks he undertakes later on.

Floyd says his son's athletic future may lie in tennis or golf rather than track. He feels that his son has the natural coordination needed to succeed in these sports. The physical and mental conditioning that he is now getting through running will, of course, be helpful in either of the other areas.

In the more immediate future, Kevin will keep seeking age-group running records. Turning six on June 18 gave him a whole new set of marks to tackle.

## KEVIN STRAIN'S RECORD PROGRESS

(\* = present or former world age-group record)

Event	Age 2	Age 3	Age 4	Age 5
50y	----	11.9	10.7	----
100y	38.8*	25.7	21.0	20.0
100m	----	----	22.7*	21.8*
220y	1:29.3*	1:02.1*	50.8*	48.4
440y	4:10.1	2:19.4*	1:48.2*	----
660y	6:01.2*	3:24.3*	2:46.8*	----
880y	9:01.0*	4:43.0*	3:47.8*	----
1320y	13:32.5*	7:10.8*	5:57.2*	----
1500m	----	----	7:37.9*	----
Mile	18:34.7*	9:52.1*	8:18.0*	7:51.1*
3000m	----	----	15:51.0*	----
2 miles	----	----	18:00.8*	16:30.0*
3 miles	----	----	28:06.1*	----
5000m	----	----	29:49.3*	----
6 miles	----	----	63:56.0*	51:00.0*
10,000m	----	----	65:33.7*	52:45.0*
Marathon	----	----	----	6:56:33*
Hour	----	----	5m 984y*	7m 155y*



*After pacing the indoor sprints for years, he's "maturing" at the longer outdoor distances.*

*by Jay McNally*

Jay McNally, of Michigan, has had his name under a number of RW photos in the past. This is his first article.

Few men would dream for as much. But Herb Washington articulates a convincing argument that he will achieve his goal as the best sprinter the nation and the world has ever known.

"I would like to be indisputably the best," the world's most feared indoor sprinter explains, "and I'm already half-way there."

Indeed he is. Washington set his first world record—a 5.1-second 50-yard dash—as a mere 17-year-old high schooler. He has since chopped a tenth off that record and tied it the last four times he has run the distance. He also racked up the first ever 5.8 60-yard time in 1972 and has tied it several times since.

Washington is outwardly confident and speaks of the future feats he aspires to in a casual, almost matter-of-fact, manner. He is convinced, or at least appears to be convinced, he will have every record from 50 yards to 100 meters by the time he retires.

"If you follow sprints, then you know I'm just coming," he says. "Every gold medal winner in the last two Olym-



Jay McNally photo

## WASHINGTON TAKES HIS TIME

pics in the 100 meters has been over 22 years old." He is now 22, and sees his maturity at least three years off.

He feels he has the speed necessary to pound out fast outdoor races, but says he lacks the strength. His fastest time in the 100 is 9.2. Five men are tied at 9.1 for the world record in the event, and many more have run as fast with an assist from the wind.

"I have not had the success outdoors that I've had indoors," Washington says. "Right now I'm working on the strength to go with my speed. I guess I'm a diamond in the rough when it comes to racing outdoors; just polish me and I'm going to come around."

Herb figures he has until 1976 to polish the flawed facets in his technique. But, oddly enough, the time limit is not

because of the Montreal Olympics.

"I'll be running at least until the next Olympics, but not necessarily for the Olympics," he states. "Right now the Olympics don't turn me on, winning does, and it doesn't matter if it is at the Drake Relays, Pocatello, or the Garden."

Few United States sprinters had reason to be turned on about the Munich affair because Eddie Hart and Rey Robinson



missed their races due to mixed up schedules. Washington suggests the fiasco was possibly more than mere accident. "The West Germans may have had something to do with it," he says. Herb feels it was "a comedy of errors, that made not being at Munich not so bad after all."

He missed the Olympic team after placing fifth in the Trials' semis with a 10.1 clocking. He says he had a good season leading up to the Trials, "but just one race" and he was out of it.

Washington leads as normal a life as he can, and makes it clear he does not like to spend any more time during the practice sessions than he must to remain a contender.

He trains with the Michigan State University track team in East Lansing (with former teammate Marshall Dill) during the school year, but is living in Compton, Calif., this summer. Herb plans to return in the fall to Michigan and his full time job at WJIM, a local radio station, where he works as a sports reporter.

A typical Washington workout might consist of a few high-quality (fast) sprints and "lots of starts." He runs 330s more often than quarters because he feels the return is greater.

Dill explains, "You can float in the quarter, but in the 330 you can't. You



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have to sprint the whole way, it's really better for you."

Washington says a typical three-day series may go like this: five 220s and many starts on Tuesday, six or seven 110s and starts on Wednesday, and 330s and 220s on Thursday with a lot of starts.

Considering the tremendous speed he runs his sprints in practices and in races, Washington is clearly a well-oiled machine in every sense of the cliché.

He has suffered an injury only once, (a pulled hamstring in a mile relay during a dual meet) and never missed a meet during his four years at Michigan State.

In the off season, Herb believes a lot of slow running is useful. But once the season gets underway, he likes to work out mainly on the track with sprints and starts.

Washington has been approached by the ITA, the professional track organization, as well as by football teams. But he says he has no intention of signing. Just yet, anyway.

"Athletics is fine," he says, "but when you are doing it for money, it has to be worthwhile."

Worthwhile to Washington means a salary with four zeroes tacked on the end. He knows his potential earning power.

"I would turn professional tomorrow if pro track were right for me," he states. "Besides, I'd rather get hit by the finishing tape than by a 250 pounder who could break your bones to pieces."

Washington is aiming now for the outdoor races. He has clipped one-tenth of a second off his 100-yard time each of the last three years to his present 9.2. At 22 years of age, Herb feels he has a lot of time to keep polishing himself into the smoothest sprinter the world has ever seen.

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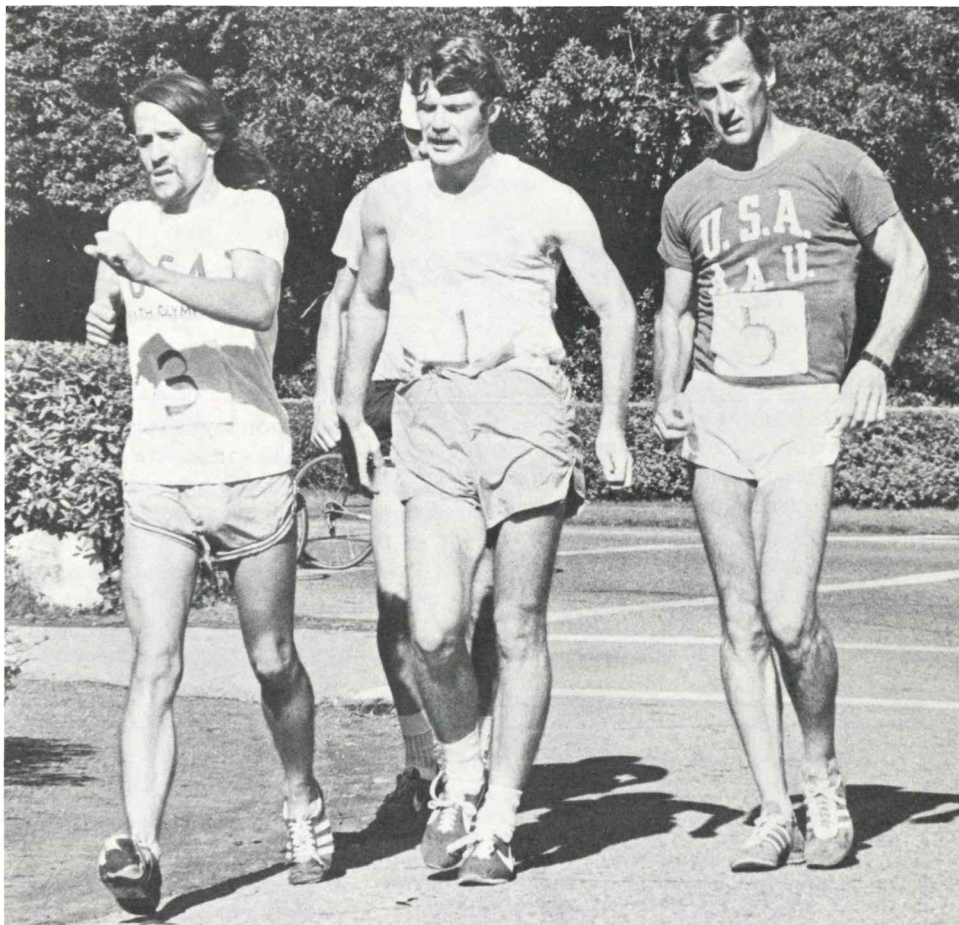
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*Steve Hayden and Bill Ranney were in athletics more than 15 years before their big moments came.*

Late-blooming walkers Steve Hayden (left, Stan Pantovic photo) and Bill Ranney (below right, George Beinhorn photo).



## WALKING AND WAITING

*by Paul Fetscher and Frank Hagerty*

What's that someone said about good things coming to him who waits? Patience certainly has rewarded two race walkers in the last year, after long years on the periphery of success.

Steve Hayden was one of the best distance runners in New York 10 or so years ago. He turned to walking after college, and was a good 20k man. After failing to make the Olympic team at that distance last year, he tried the 50 as a consolation and ended up walking in Munich.

Bill Ranney is one of the tough "old men" of the walking circuit at age 38. But until a few months ago he'd never won a major title. Then he won the most prestigious title of all—the 20 kilometers for a sure berth on the US summer traveling squad.

Two long-time friends of the walkers write about them. Paul Fetscher is Hayden's teammate at the Long Island AC. Ranney was Frank Hagerty's coach in college at Sonoma State in California, and Frank is now an internationally-qualified walking judge.

### STEVE HAYDEN

Of the darkhorses who qualified for the US Olympic team last summer at Eugene, perhaps the darkest was Steve Hayden in the 50-kilometer walk. This horse appeared on no one's list of hopefuls for placers or also-rans.

The fact that no one picked Steve for the team in the 50k wasn't surprising in view of the fact that he'd only walked the distance once before. In spite of that, though, he had a rich background as a



walker—and as a runner—before that.

Hayden's accomplishments date back to 1958, when he started running. I first got to know Steve in high school. We were both in the New York state cross-country meet in 1961. As we ran down a narrow path on a steep hill about three-fourths of a mile from the finish, he yelled, "Let me through. I'm a farmer and my crops are burning." Apparently this ploy worked, because Steve pulled away to win. The following spring, he won the state two-mile title, and cracked 10 minutes for the distance.

He continued running at Penn State until graduating in 1966, and later ran 2:51 in his only try at a marathon. By that time, however, he had a new interest—walking.

In the summer of '65, Steve had run a disappointing 1½ mile in a Long Island AC meet. The only event remaining was the walk. He was given a 300-yard handicap and managed to hold off a fast-closing two-time Olympian, Henry Laskau. Within two years, Hayden was a serious, full-time race walker.

And by 1970, he was one of the best in the country, posting a 1:32 for 20 kilometers. But then he picked up knee problems that hounded him for the next year.

Steve went back to Penn State in the fall of '71, and as his injury cleared up he started his drive for a spot on the Munich team. He was training 75-85 miles a week, with a liberal sprinkling of quality work during this period.

Just when he was rounding into top shape, he suffered another injury—this one to his back while weight training. He lost most of the month of March but recovered enough after that to renew his hopes.

These hopes wilted on the first hot afternoon of the Olympic Trials, when he placed sixth in the 20-kilometer race.

As long as Steve was in Eugene and qualified to start the 50k, he figured it would be a good training walk. Rather than lag behind as he had in the 20, he decided to stay with the leaders as long as possible. The past fall's work appeared to be giving him the strength to hang in very well.

Hayden was 30-35 kilometers into the race before the thought entered his mind that he could actually qualify at that distance. Nothing seems to help a distance athlete as much as seeing those around him appearing to tire faster than he is. Steve watched others fall off the pace.

Not until 45 kilometers did he have to concentrate on fighting fatigue. But by that time the job was made easier by

the knowledge that he was in third place and on the Olympic team if he could just hang on.

It had only taken Steve Hayden 15 years to become an overnight success.

**Steve Hayden:** Floral Park, NY. (Long Island Athletic Club). 29 years old (born June 11, 1944, at Brooklyn). 6'0", 145 pounds. Single. Teacher. Began (running) racing in 1958 at age 14; started walking in 1965 at age 21. Coached by Howie Jacobson.

**Racing:** (running) mile—4:26 (19-66); 2-miles—9:24.8 (66); steeplechase—9:35 (66); 6-miles—31:49 (66); marathon—2:51:47 (67). (walking) mile—6:22.5 (70); 2-miles—14:21.8 (69); one hour—8 miles 41 yards(70); 20 kms.—1:32:06 (70); 30 kms.—2:34:54 (72); 50 kms.—4:23:22.6 (72).

**Training:** normally once a day, but twice when "peaking"; 7 days a week, 11 months a year; 75-90 miles a week. Training is cut into three distinct periods:

1. Pre-season: volume road work, alternating terrain and speed to some extent. Typified by 25-mile strolls at 10:30 per mile.

2. Early season: Gradually introduces more speed. Perhaps two interval sessions a week—i.e., 24 x 440 at 1:55 with less than 90-second rest.

3. Peaking: intervals and reps—hard-easy system a la Bowerman.

## BILL RANNEY

His name may not be familiar to you. But if you check results of major walks from 1966 on, you're sure to see his name among the top finishers time and again.

It is for this precise reason that Bill Ranney's walking career has been both successful and disappointing. He has consistently proved himself to be highly competitive, yet he has not had the speed to match opponents in the biggest races.

Bill missed the Olympic team in '68 by a few places, and again in '72 by a similar margin. For a man of 37, it may have seemed a good time to retire gracefully. But Ranney had some things he wanted to prove yet.

He claims he has improved his training, conditioning, technique and therefore performances each year he has walked. (And he didn't begin until he was 29.) And it all has come together for him in the post-Olympic year.

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Even then, though, his victory in the AAU 20-kilometer championship at Santa Barbara in April was shocking. Friends and competitors of course expected him to place well. He always did. But win? I think even Bill himself was surprised at that.

After hitting that peak, I asked Bill to trace his development from so-so runner, through a rocky beginning in walking, to winner of the most important national title.

"Actually," he said, "I tried a number of events before turning to walking. I was involved with running for many years, and competed in events ranging from the quarter-miler to the marathon. My eventual turn to walking was due to the influence of Mick Brodie, a former Olympic race walker."

Brodie encouraged Ranney to enter his first walk in 1964. "I believe I finished next to last," Bill recalled. "But I hadn't trained for it, and it happened to be the Olympic Trials for 50 kilometers."

He was typed as a 50k man for sev-

eral years, and walked that race in the '68 Trials. But then he switched to the 20, explaining, "I found that I simply couldn't race 50 kilometers. I could walk it but not race it. When I found I couldn't race the 50 effectively, I switched my emphasis. Since switching, my times have improved each year I've continued."

His winning time at Santa Barbara was 1:34:15—his second fastest—but he feels he can improve his marks at all distances this year. He thinks training changes are the reason.

"The most important change," Ranney said, "has been the inclusion of serious weight training and doing fast workouts in a relaxed manner."

"During the competitive season, I make sure my week includes each of the following workouts: one overdistance walk (20-25 miles) at a strong pace, a couple of days of intervals, one or two days of middle distance work (8-12 miles) done at a hard pace, a time trial, and an easy day."

He said he's able to keep going so

well at his age because he plays a game with himself: "I've said I would ease off when I lost interest or slipped in performance, but it hasn't happened yet. The real saving factor in my continuing, though, has been my wife's patience."

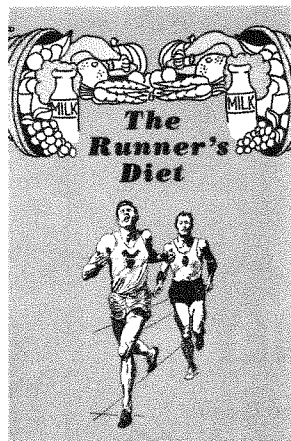
**Bill Ranney:** Fairfax, Calif. 38 years old (born July 6, 1935, at Quincy, Mass.). 6'0", 160 pounds. Married. Teacher. Began walking in 1964 at age 29. Self-coached.

**Racing:** 2 miles—14:12 (1971); 5 miles—36:20 (70); 7 miles—50:19 (69); 10 miles—1:14:18 (72); 15 miles—1:56:20 (68); 20 miles—2:38:50 (70); 5 kms.—22:20 (72); 10 kms.—45:40 (70); 15 kms.—1:08:50 (72); 20 kms.—1:33:21 (72); 25 kms.—1:59:13; 50 kms.—4:42:00 (68).

**Training:** Sample week—Sunday, 20-25 miles at 9:00 pace or better over hills; Monday, easy 5-7 miles; Tuesday, AM 7-10 miles, PM intervals; Wednesday, hard 10-12 miles; Thursday, AM 7-10 miles, PM intervals; Friday, easy 7-8 miles; Saturday, moderate 10-11 miles.

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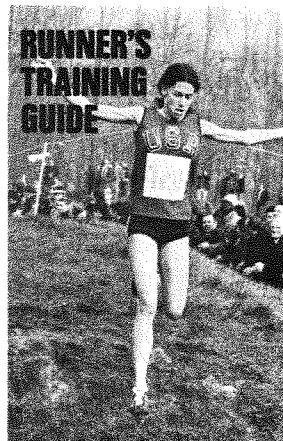
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# THE FAST TANGO IN PARIS

There is always a small flicker of doubt before any race ("How did I get myself into this?"). But at this point the doubt was growing into an obsession. I was standing in the center of Paris in my running clothes, trying to keep warm against the chill spring wind, surrounded by 26 other nervous runners. Across the river we could see the tight pack of runners progress from bridge to bridge, accompanied by police sirens and flashing lights and waves of cheers and a trailing motorcade.

Our relay leg was to be from the Pont de Grenelle to the Pont Bir Hakiem, starting next to the Statue of Liberty (an exact replica of the one at home, only 10 times smaller) and ending at the very bridge where they filmed "The Last Tango in Paris." But as the race swung across the bridge and towards us it didn't look as if I was going to have time to feel patriotic or sexy.

The running club I belong to in France, Stade Francais, had decided to dust off a very old idea as a means of celebrating their 90th birthday (not bad for a running club, huh?) and reorganized a 25-kilometer medley relay through the heart of Paris. It was an old idea because this race, between 1934 and 1958, had been one of the big events on the Euro-

pean calendar. It had died out in 1958 because of the cost and the difficulty of keeping it well organized.

The idea is applicable to any city. Take a given distance through the heart of the city, with each relay leg going from one natural point to another, such as bridge to bridge, intersection to intersection or monument to monument. Because of the varying distances between the natural points, the whole club (or school) can get involved: sprinters, quarter-milers and distance runners.

Of course it helps if the city is Paris and you have a river cutting right through the center of town with 25 bridges to choose from, and the course takes you past the Louvre, the Place de la Concorde, Notre Dame and the Eiffel Tower.

Twenty seven clubs responded to this year's invitation, including teams from Germany, Luxembourg, Belgium and Switzerland. By race day the field included two Olympic medalists (Guy Drut and Karel Lismont), several European champions, and at least 10 national champions from the various countries. The other 1300 relay runners ran the gamut from also-rans, to will-be's, to Sunday joggers. Most of the clubs used the race as a means of early season motivation, having a series of selection trials to see who would

represent them, while more than a few had the problem of finding 50 ambulatory runners.

This year's race was one of the closest ever. A tight group of eight runners led from the Jardin des Tuileries with the Racing Club setting the pace at the halfway point. Then Jean-Claude Nallet (the European 400-meter hurdle champ) overhauled the entire field with an impressive 500-meter run to put the Paris University Club in front. PUC and RCF continued to exchange the lead until PUC finally edged away over the last three miles to win by less than seven seconds in 56:27.

My own little race turned out to be one of those solo efforts with the leaders out of sight and the followers not yet in view. But that didn't stop three carloads of Stade Francais supporters and one motorcycle cop from dogging each one of my footsteps for 900 meters to be sure I kept the pace. I kept telling them it takes at least two to Tango, but my weak humor was lost on them.

The race will be run again next year, and the year after, and looks as if it is back to being a highlight of the European running season. We wanted very much to have an American team this year, but it was too early in the season for the usual group of wandering summer runners and too late to find 50 itinerant American runners who may have happened to be in Europe at the time. Maybe next April in Paris?

**"I was standing in the center of Paris in my running clothes, trying to keep warm against the chill spring wind, surrounded by 26 other nervous runners. . ."** (Danielle McFadden photo)





Mark Shearman photo

# BRITAIN'S CLUB TRADITION

*by Brian Mitchell*

**In Britain, running is a club sport. The sport thrives at the club level, and many British clubs have had more than a hundred years to work out a good and lasting format for club organization. Brian Mitchell is a product of the club system there, and now coaches in it.**

The most heavily populated British counties may have more than 10 athletic (track and field) clubs within their boundaries, and these boundaries are by United States standards anyway—short.

For example, Kent at the southeastern tip of the British Isles is a maximum 60 miles from west to east and not more than 40 miles at any point north to south. It is the ninth largest county in England, and it has 12 clubs, five of which claim a very active membership throughout the year.

Yet none of these Kent clubs can match the strength of those in Cardiff, Edinburgh, Wolverhampton, Birmingham or London and its environs. With

all its faults and weaknesses—and there are plenty—the British club system is the heart and sinews of athletics in the country, and perhaps is worth looking at as a model for club programs elsewhere.

The basic athletics unit in Britain is certainly the club, and an analysis and description of this unit must include a look at its geographical position, its administrative structure, its income, facilities, promotions and connections—deliberate or casual—with adults and schools in its locality.

The area served by a club inevitably shapes it. A small town most often has a club, carrying the town's name and getting some of its identity and loyalties from this. An area of a big city will cater to its own citizens (for example, Edinburgh Southern Harriers, North London A.C., South London Harriers). A thinly populated county may have its unit (Norfolk Gazelles, East Kent Ladies, East Surrey Harriers) and draw on a wide area. Most often, and traditionally, the club bears the name of a town, has its head-

quarters there, and gives something to and gets something from that town in terms of reputation and support.

Some British clubs have been around for a long time. The London A.C. was founded in 1863, while my own club (Blackheath) celebrated its centenary four years ago. But there is a continual creation along this line and every year, somewhere around Britain, groups of people decide to set one up. Their vigor waxes and wanes like anything else, but most clubs survive.

The administrative structure obviously varies from club to club. Some have been known to survive on the back of one man and without a proper structure, though this is not recommended because often when the man goes the club falls. Also, with the burden of work which is allied with an active club, the only sane way of managing is for that work to be carefully and clearly portioned out, each part connected to every other, with no one administrator having to carry too much. Something like 20 people



are often needed to carry out the diverse duties.

At the top is the chairman, whose central job is to cohere and to persuade. He has to be in touch with everyone, without directly doing any work himself other than this vital business of keeping everyone else going and closing any gaps that appear.

The secretary handles all incoming business and replies to most of the correspondence, or sees that it reaches that club official to whom it refers or who must himself reply. The secretary is in effect a filter, able to answer any query on any side of his club's life, or hand it to someone who can. The secretary of an athletics club in Britain very often carries a heavy load of duties, with little recognition.

The treasurer keeps written record of all income and expenditures and an energetic treasurer will not only take in money, but will be alert always to new methods of making it. He is a genuine philanthropist, making money on behalf of others, many of whom contribute nothing.

Ideally, there is a separate membership secretary, who will deal with all applications for membership of the club and keeps contact with new members, seeing that they know all that is going on in the club.

Since an athletics club exists to provide competition, a major part of the club's administration is concerned with this. At least four posts have to be filled: transport, fixtures (schedules), catering and team management.

The transport secretary arranges cars, coaches, train-seat bookings, or whatever means of travel is necessary, and he tells members what has been arranged, where to meet, cost, and so on.

All clubs have fixture-lists which are ridiculously long, so that there are few Saturdays when there is no competition. A club with both men and women needs four secretaries in this department, two of each sex, one for winter and one for summer. British clubs take part in a vast range of events: trophy matches, open races, county and area championships, road racing from short relays to the extended torture of the London-to-Brighton, indoor meetings in winter. Alongside the fixture secretaries there has to be someone who will ensure food and drink for any home matches, and get a group of helpers—almost invariably mothers and wives—to prepare and offer this.

A hundred and one jobs fall to the team manager, from supplying a piece of lost equipment or personal gear to consoling those who have torn muscles.

Where a club is sufficiently alive

to want to increase its membership, local support and prestige, it will try to appoint a press secretary, a public relations officer and /or a club publication editor. The press secretary submits reports to the local newspaper and results to the national magazines if these results warrant such treatment. A public relations officer is a very rare creature in amateur sport, but an invaluable one for the club that means business. He can chase every method of gaining publicity. If it can be done, the club will publish its own magazine or newsletter. One or two British clubs produce really professional journals, while most put out a monthly newsletter in duplicated form. This is a very important means of contact with members.

A special point must be made of the contact a club tries to maintain with local schools, which are the logical feeding-ground of any club. Where there is a local teacher prominent in the club, the task tends to fall on him or her. Otherwise, someone has to accept the post and approach the schools. This is complicated and sometimes sensitive territory because many schools have their own complete fixture-lists and do not cooperate very readily—and sometimes even obstruct.

The best method of dealing with schools has yet to be discovered by the majority of clubs, but those who work at it will promote races, contact individual athletes, put on training and coaching courses during school holidays, and offer the club's facilities immediately to a youngster leaving school (this is especially important in Britain, where no more than one-fourth of the youth go on to college or university but instead go to work at 16 and need some help with their sport.

Ideally, the coaching in a club will be given special consideration, and anyone who wants training advice will be able to get it. The ambitious athlete can be continually helped, training discussed and recorded, special sessions arranged, winter lectures put on. There will always be a difficult man-power problem in this matter, and never enough knowledgeable or interested people are available to help the younger athletes. But a coaching secretary is an asset that the best clubs claim or establish.

It is also necessary to get somebody to look after the supply of equipment. Not only do clubs try to be self-sufficient in terms of implements, but also they often arrange bulk supply of vests and tracksuits, and get a contract with a local sports shop for discount on the main items of personal equipment—primarily shoes.

No doubt, the twin requirements of manpower and money govern the success of an athletics club, and even its very

existence. The problem of income is paramount. Each individual member must pay an annual subscription, and this may have to be quite high.

With that basic money in the bank, there has to be a continuing series of schemes if the club's income is to be kept big enough to allow all the training and competition to take place and some kind of headquarters to be maintained. Match fees, sale of teas, Christmas "draws," "200" clubs (where the aim is to get 200 people to a raffle each week or month), and long lists of subscribing vice-presidents who do nothing but see their names on the club's notepaper are some of the fund-raising methods used in Britain.

Out of this inevitably slight bank balance there usually has to be found some rent for changing-rooms and track. Whether the club has an all-weather track provided by the local government authority, or merely the use of a school field, members will have to fork out cash for their facilities, and this is a headache for all committees and treasurers. There is no escape. The effort has to be made and the money found.

A great amount of initiative and thrust is used to find some kind of headquarters wherever a club tries to operate. The first two seasons of cross-country I experienced were from the bar of a public house. We moved in to change for the race as soon as the drinkers had moved out. After running we had a stand-up bath in a tin tub in the innkeeper's garage (or was it a stable?). This procedure has not died out, though many clubs can offer sophisticated, all-weather roofs and showers nowadays.

If it all sounds too much to take on, it isn't. There is a lot of work and planning, yet the whole thing is worthwhile since from it the sport grows and is sustained. There is massive room for advance and improvement, and few would deny this. But the British club system does mean that the sport here is not in any way dependent upon the universities. It is not even dependent on any kind of political, social or educational authority, though some would like it to be so.

At ground level, which is club level, I doubt whether athletics will ever grow except from the energy, imagination and sense of purpose of small numbers of people who love the sport and are prepared to work, in however a small way, to see it thrive.

This is the secret. Plans and thought come to nothing unless some flesh and blood is pumped into them. No amount of state money or directives will ever substitute for people who want the thing to work.

# RUNNER'S GUIDE TO BOSTON

Rick Levy, a native of New York, has gotten to know and appreciate much of the Boston scene on foot, as a peripatetic photographer and runner.

This is where it all began. Boston, "The Hub of the Universe," crucible of the Revolution, home of the Tea Party, of the nation's oldest university, and of North America's oldest living marathon race. Boston, "The Athens of America," steeped with contemporary culture as well as history—and with runners and running activities. To many people (and some dogs) of this area, road runners have long been a commonplace sight. Even the comments are different. Small children are apt to ask a group out for a friendly Sunday run whether *this* is "the marathon."

If such a thing as a running center exists, surely the best credentials belong to the banks of the Charles River (a river polluted enough to be called by some, The Chuck), and to Fresh Pond Reservation, in western Cambridge.

Let me explain to the uninitiated that Boston proper is a relatively tiny part of the metropolitan area—78 surrounding cities and towns, closely jammed together, contain three-fourths of Greater Boston's population. Cambridge is "next door" to Boston.

A run by the twisty river offers varied vistas, a flat, mostly paved course (with some grass optional), the likelihood of encountering other runners, and a wide selection of distances. A continuous loop including both sides of the entire lower basin, from the dam at Science Park up to Watertown Square, measures 16.8 miles; up only as far as Eliot Bridge, 10.1. Many shorter combinations are possible by crossing other bridges. Exhaust fumes are not bad—as city running goes—except during rush hours, and on Sunday mornings the air can actually smell fresh on occasion.

About a mile from the river at the Eliot Bridge (up Routes 2 and 3) is Fresh Pond, "embosomed among the hills," as a 19th-century writer once put it. Perhaps the most ideal running site around, it draws runners from miles away. (We share it, though, with cyclists, soccer players, bird-watchers, golfers, and assorted other types.) At peak times hardly a minute passes without a runner going by. Except for patrols, motor traffic is barred.

Races of one to 50 miles have been



**A run along the Charles River, Boston's "running center." (Rick Levy photo)**

held here. Running company of either sex and a wide range of ages and abilities generally abounds, at least in season. The paved path surrounding the Pond measures 2¼ miles, and this can be lengthened to 2½ by including the hill overlooking the main parking lot. Distances are marked on the pavement. The path is usually plowed in winter, though a few icy patches may remain. Some predominantly cross-country loops are available, too. One, of about three miles, blazed by Larry and Sara Mae Berman some years ago and well trodden since, offers some of the best running of all.

On most week nights from March to October, a group of Cambridge Sports Union runners assembles in the main parking lot around 5:30 and/or 6 p.m. (depending on the hour of dusk) for a nightly run and enjoys meeting newcomers. From late June to late August there are races Thursday evenings. Officially the park is open from 8 a.m. to 8 p.m. It can be

reached by No. 72 bus from Harvard Stadium.

Two other bodies of water are popular for circumpedestrianism: Chestnut Hill Reservoir, near Boston College, approximately 1.8 miles, and Jamaica Pond, 1.4 miles. The latter, in fact, is in the midst of a series of parks stretching almost continuously about seven miles in a pleasant green belt from Boston Common to the Arnold Arboretum. This plan was laid out in the last century by famed landscape architect Frederick Law Olmsted (perhaps better known for his designing of New York's Central and Prospect Parks). Soon after one leaves the Commonwealth Avenue Mall at Charlesgate for the greater haven of the Fens a short distance away, relatively long stretches ensue between interruptions for cross traffic.

Definitely *not* recommended for running is the Freedom Trail, 1½ miles of historical sites distributed along some of the oldest, narrowest, most congested streets in the USA. To the historically minded, it is indeed worth a visit, but not on the run. Many other downtown streets are similarly too traffic-laden for safe or pleasurable running, but there are better places nearby.

Besides having the river, if downtown one can head for the Boston Common or for the waterfront (Atlantic Avenue/Commercial Street). The Common has a 1¼-mile jogging course with circuit-training facilities, as well as various other paths, trees, a long history, some left-over hippies, a hillside, statues, pigeons, etc. For a rugged hill workout amidst quaint and charming houses, Beacon Hill is nearby, but watch out for cross-traffic. The Hill is steep enough to let visiting San Franciscans feel right at home.

Franklin Park, in Dorchester (10 minutes or so from downtown by rapid transit, or "T") is an especially popular and attractive place for cross-country running, and heavily used by scholastic and collegiate harriers.

The runner who prefers to, or must, run after dark will find most stretches of the river bank illuminated just enough, especially if one knows the way. But the parks are out. Massachusetts Avenue is well lit and can be followed from the river at MIT all the way to Lexington Green (10½ miles) and beyond, with adequate



visibility and reasonably little interference from traffic late at night.

Wide sidewalks through much of Cambridge and Arlington are a help. Out past Arlington Heights (colonial name, Menotomy), at 1 a.m. on a Sunday, I have found this course as quiet and fragrant as a deserted country road, which at most other times it decidedly is not. By the way, out here you're actually following the route of Paul Revere's famous midnight ride.

Let me digress to insert words of caution about the legendary Boston driver, who makes his (or her) aggressive way by *thud and blunder*. It's not for nothing that auto insurance rates here are so high. Whatever the visitor may have heard about the Boston driver, it's probably true. Take heed, and move as defensively as you know how. After snow storms, when streets are further narrowed down by piles of snow and sidewalks may not be runnable, extra care is called for.

For the distance runner, no trip to Boston can be complete without a visit to the Newton Hills, the infamous topographical terrors of the marathon course. From Lake Street out to Newton Lower Falls and back is just over 11 miles. After a few trips over these hills, both ways, they lose some of their fearsome aspects. Commonwealth Avenue in Newton, which rolls over three of the four hills, is used by many collegiate and other runners for their workouts. It can also be followed due west (rather than turning with the marathon course at the Auburndale fire station) into outer suburbs like Weston.

The rest of the inner (or second) half of the Boston marathon course is usually too clogged with traffic for a pilgrimage to be worthwhile—with the possible exception, once again, of Sundays.

To the north, Mystic Lakes and Middlesex Falls are worth checking out. The latter has miles of bridle paths, free of motor traffic, and includes Spot Pond, (4¾ miles around).

Farther out in suburbia are many good running areas, limited in scope only by one's ingenuity and the time and means available for getting to them. To the west, Lincoln, Walden Pond and the Concord-Carlisle-Bedford area can be explored. To the southwest, Wellesley and Dover. To the south, the Blue Hills. To the northeast, Nahant Beach Causeway and Lynn Woods. There are no eastern suburbs.

Much further out, but of exceptional interest for its nautical history, scenic coves, rocks and beaches, Cape Ann offers circumferential road runs of 18-21 miles along the coast line. Of the few public saunas around, two are in Lanesville, a town heavily settled by Finns. Train ser-

vice connects Gloucester and Rockport, on Cape Ann, with North Station in Boston.

As for tracks, cinder 440-yard ovals can be found at Harvard, MIT and Tufts, and all-weather facilities at Brandeis (somewhat farther out) and several suburban high schools.

In winter, Harvard's Briggs Cage, at Soldier's Field, is open most weekdays and Saturdays for indoor running (10¼-lap banked board track and 10½-lap dirt floor). Closing time can be unpredictable, but is usually 6 p.m. or later.

Tufts' Cousens Gym has a well-maintained eight lap dirt track and is normally open Monday-Friday to 6 p.m. and some evenings as late as 9 p.m. Access to any of the aforementioned facilities is generally informal, but it is courteous (and self-preserving) to keep out of the way of any school teams that may be working out.

The track in Rockwell Cage at MIT is 10 laps and is open for general running in winter Monday-Friday from noon to two and after 6:30 or 7 p.m. It may be best to approach it as somebody's guest, but there should be little problem with this, as middays at MIT (outdoors as well as indoors, depending on the season) afford one of the best opportunities for making contact with other runners. A goodly number of "serious" runners, including some of the leading over-40's of the area, are to be found there around noontime.

Harvard's modern indoor track fa-

cility, housed in "the bubble" by the river, with a banked, rubberized, 11-lap track, electronic pacer lights and all, is restricted to college team members most of the time. If you look enough like a professor, or have at least Olympian status, they might let you run there weekdays between noon and 2 p.m. during the indoor season. On the other hand, Briggs Cage, relatively unrestricted, is nearby.

As a last resort on Sunday, in mid-winter, with all the other tracks locked up and the world outside a sheet of ice, the Huntington Avenue YMCA will welcome you (if male) to its indoor track of 12+ laps, and all its other exercise facilities, for a fee of \$2.00.

In the course of a year there are over 50 road races within 10 miles of Boston, and double that number within 25 miles. The North Medford Club holds one every Tuesday evening from May to September, and Sunday afternoons from November to March, the location rotating. Major road competitions, drawing fields in the 200 range, take place each of the four weekends preceding the Boston marathon. The Cambridge Sports Union sponsors summer and winter races and a number of track meets. There are many other races, meets and race walks in the area.

For information on forthcoming events, contacts are: Bob Campbell, New England AAU long distance running chairman (617-327-5817); Fred Brown Sr. (617-391-1899); or Larry and Sara Mae Berman (617-868-7416).

FIFTH ANNUAL

## PPAAVO NURMI MARATHON

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- Sponsored by Hurley Chamber of Commerce and Olympia Sport Village.

Write: Hurley Chamber of Commerce, 203 Silver Street, Hurley, Wisconsin 54534. (715) 561-4334.

# "I JUST LIKE WATCHING THEM"

Much has been written about the runner's addiction to his running. The 20-mile-a-day schedules have been well-documented. The whys and hows of the runner's every stride have been interpreted, dissected and analyzed. But what about his counterpart in the grandstand or along the road, watching and experiencing vicariously the circling of the track or laboring up a hill?

In communities where runners are in abundance, activities for runners usually are in abundance. A healthy schedule of meets and races tends to lure the same crowd from week to week. There are the athletes themselves and their coaches, also the officials, the press, parents and friends of runners. In a sense, they all are participating, dependent upon one another for the success of the event. They have reasons for being there. They are working or competing or rooting. And, chances are, if they were not doing those things they would not be there.

Not unless they are like Kenny Abramson. Abramson, who has never run a day in his life—and looks it—is part of the small number of running gypsies who has no reason for being at a track meet or road run. He does not compete or coach, does not care who wins or loses and rarely officiates. He might flippantly be referred to as a "track nut," but that hackneyed term does not do him justice. He is an ignored breed of running addict—the non-runner whose ultimate pleasure is watching others run.

"I just like watching them (runners) run," says Abramson, as though anyone would understand that. Most of his watching has been in the New York City area where Kenny has lived for all of his 37 years.

The comprehensive New York program makes it virtually impossible for anyone to absorb all levels of competition. Some follow the schoolboys in the stadiums on Saturdays (and in the armories and parks in the winter and fall). Others travel up and down the coast with the collegians. For many, there are the increasingly popular Sunday road runs. And even the age groupers draw a certain distinctive piece of the action.

Kenny Abramson sees it all. He estimates that he now attends almost 150 events a year, an average of three a week. No summers off for him. He's at it 12

months a year, digesting cross-country and marathoning and 12-hour high school indoor extravaganzas.

His squat figure, topped by a trimmed goatee and balding peak and anchored by his airline bag, is quite familiar to veterans of the New York running scene. Few persons know him by name. Abramson's script rarely changes. With an ever-present bag containing his stopwatch plus road running schedules and entry blanks, Kenny arrives at a meet well before the first gun sounds. He positions himself high in the grandstand, directly in line with the finish. Usually he is alone. He sits until the last athlete has run his race. ("I don't like to eat at meets," he says.)

Abramson wears a constant grin, as though someone were tickling his back with a feather for the entire meet. Wow, some kid just ran a 47-flat anchor 440 to win a photofinish in the mile relay! Same grin, same Abramson. His even expression is not indicative of apathy.

"I don't get too excited because I'm not personally involved," says Abramson, who finds it difficult even to get emotional over his alma maters, Taft High School and New York University.

Abramson, who has attended over 1700 meets, saw his first event in 1955 while a college student. He was inspired by the publicity accorded to indoor mile duels between Wes Santee and Fred Dwyer. Ken decided to find out what running was all about. In 1956, he took on the high school program, and he picked up the Road Runners Club schedule in 1963. On occasion he has been a timer for the RRC.

Although Abramson's schedule is intense, he has never seen the big ones: no Olympics or Trials, no Boston marathon. Paradoxically, his absence from such world-renowned events is indicative of the purism he represents as a fan of running. Sure, there are those who have seen the Games since '32 (and before) and those who attend the collegiates and nationals, indoors and out, every year. But how many are where the Olympians were first bred and groomed—in the parks at 9 a.m. on Saturdays and Sundays? Abramson is

there till the sun sets, perhaps walking more miles than the competitors are running.

Another New York running phenomenon that Abramson thrives on is the indoor development meet. A handful of them, run on the flat 220-yard board oval at the 62-year-old State Armory, are staged in December as warmups for the invitationals. Odd distances are run and most competitors are given handicapped starts. They are very informal, and most everyone has a good time talking track. One thing's for sure: They commence at 6 p.m. sharp... and go on...and on...and on. Way past midnight. Kenny Abramson is still around. As the man says, he likes to watch them run.

Abramson has seen 30 marathons, which may require more stamina than running 30 marathons. His first was in Yonkers in 1963. "Young John Kelly won it," volunteers Abramson, proud that he remembered the fact. "I like a good marathon, especially if we get a good performance."

One of the many changes Kenny has witnessed in his tenure as New York's unofficial running laureate is the progress in distance running. "It's improved tremendously in the past few years," says Abramson. "It wasn't long ago when only a few broke nine minutes (two miles). It was more psychology than anything else. Once someone started running fast, everyone started running fast. Everyone says it's training. Not entirely. Sure, 100 miles a week pays off, but psychology is important, too."

Abramson bemoans most the inadequate college and club program that exists in New York. Noting the scarcity of quality outdoor meets, Abramson relies on the the congested high school program to fill the spring gap.

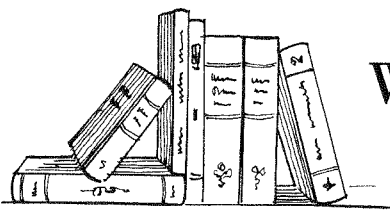
With Montreal only 400 miles from his home, Kenny hopes to take in the next Olympics. He also is confident he will have made it to the Boston marathon by then.

Kenny Abramson at the Olympics would be like a kid in a toy shop at Christmas. Still, amid all of the orgiastic pleasures for this non-running addict of running, his expression, constant and curious, would reflect none of it. His philosophy is simple: "I favor the distances, but I watch 'em all."

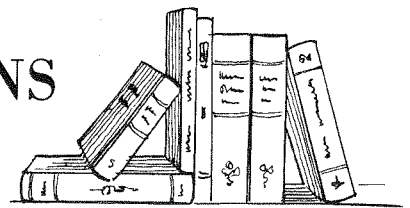
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# WORLD PUBLICATIONS BOOKLIST



RUNNER'S WORLD - BIKE WORLD

NEARLY 100 TRACK & FIELD BOOKS - RUNNER'S WORLD, BOX 366, MOUNTAIN VIEW, CA.

**COMPETITIVE RACE WALKING**, Ron Laird. A modern guide to technique, training, judging, etc. by one of America's top walkers. Well illustrated. 8½ x 11, illustrated. \$3.00.

**GUIDE TO DISTANCE RUNNING**, edited by Bob Anderson and Joe Henderson. With over 100 articles and 100 photos this book covers distance running like it has never been covered before. Chapters on the basic physiological factors, racing methods, training and coaching techniques, philosophical observations and the people in the Sport. Must reading for all distance runners, coaches and people interested in the sport. 1971. Paperback, 208 pages, (8½ x 11), illustrated. \$4.95.

**COMPUTERIZED RUNNING TRAINING PROGRAMS**, Jim Gardner and Gerry Purdy. A new concept in training. Using a computer, the authors have taken the guesswork out of interval training—devising sets of workouts geared to the specific ability of each runner, all distances. Paperback. 1970. 100pp of text, 122pp of tables. Illustrated. \$4.50.

**JIM RYUN STORY**, Cordner Nelson. A detailed description of the life and times of America's number one track hero. Brilliantly illustrated with nearly 200 photos by Rich Clarkson. 1967. Hardback, 272 pp. \$5.95.

**KIPCHOGE OF KENYA**, Francis Noronha. Keino—the greatest athlete in the history of African track. We know that he is a world record holder, an Olympic champion. But what of the man? This book answers these questions. Paperback, 160 pp., illustrated. \$2.95.

**THE LONELY BREED**, Ron Clarke. Clarke looks deeply into the personalities and methods of 21 distance greats that he admires most. 1967. Hardback, 187 pp., illustrated. \$5.95.

**THE UNFORGIVING MINUTE**, Ron Clarke. The autobiography of history's most successful record-breaker gets into the factors and philosophies behind his times. 1966. Hardback, 190pp., illustrated. \$5.95.

**AEROBICS FOR WOMEN**, Mildred and Kenneth H. Cooper. Liberating body and mind through pride in health and a sense of aliveness. Just as hope-giving and fascinating as the original "Aerobics" book. 1972. Hardback, 160 pp. \$5.95.

**THE NEW AEROBICS**, Kenneth Cooper, M.D. The new book picks up where the other left off. Here, Cooper offers age- and sex-adjusted programs, refined charts and schedules, chapters on women's training and indoor exercises, plus answers to questions arising from the original book. 1970. Hardback, 190 pp., illustrated. \$6.95.

**COMPLETE BOOK OF ATHLETIC TAPING TECHNIQUES**, J.V. Cerney. "Flexible casting" as an "offensive and defensive weapon against injury." A remarkable book for preventing and caring for athletic injuries. The illustrations and clear descriptions make all kinds of tapings easy. 1972. Hardback, 242 pp., ill. \$10.75.

**COMPLETE GUIDE TO HIGH SCHOOL TRACK AND FIELD COACHING**, Ray Kring. An essential book for every prep coach. Chapters on selling your program, practice organization, staging meets, coaching all events, making equipment, much more. 1968. Hardback, 280pp., illustrated. \$12.95.

**FOUR MILLION FOOTSTEPS**, Bruce Tulloh. Tulloh's lively and literate book describes his epic "record" run across the United States during the summer of 1969. He tells of the mammoth obstacles imposed by injuries, fatigue, traffic and sheer mileage during his 65-day journey. Fascinating! 1970. Paperback, 175 pp., illustrated. \$1.95.

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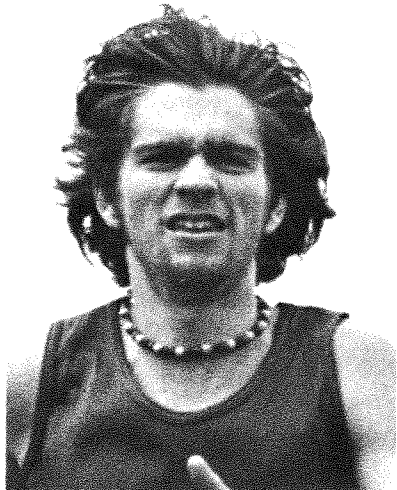
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## PROFILES



John Marconi photo

### PAUL GEIS

BY JANET NEWMAN

Paul Geis has been tabbed as the man to fill Steve Prefontaine's track shoes next year at Oregon after running right in his footsteps in a recent 8:24 two-mile.

"It does put pressure to be the best runner on the squad—not as any type of super runner like Pre," Geis says.

Right now Geis is looking to next fall's cross-country season. Prefontaine has one season of eligibility left. Both Geis and Tom Hale (27:57 for six miles) will be eligible for the first time after training through a year as transfer students. With a half-dozen other top runners to round out a strong team, Oregon has high hopes for taking the national title. And Paul Geis expects to be there when it happens.

Geis transferred to Oregon from Rice University after "falling in love" with Eugene during the NCAA meet and Olympic Trials last summer. He has only been running seriously for three years, since an Igloi-trained runner named Jerry Laird became his coach in Houston. Twenty-year-old Geis credits Laird with providing the kind of hard interval program Geis needed to improve from 4:36 to 4:12 in the mile in a year. Paul stayed with Laird's program as a Rice freshman and went on to the Olympic Trials, where he ran 14:02 for the 5000.

"Last year I ran all my workouts by myself," he says, "This year I'm almost always with other people. It's much easier to do hard workouts with a big group of people."

Geis describes himself as the type of guy who likes to get off the track and "raise hell with friends and lead a normal life. Sometimes I'd like to take a more mellow approach to running, but the fact that I changed schools indicates that it's a predominate part of my life."

Yet on the other side of this enthusiastic runner is a bit of the cautious businessman (Geis is a computer science and business major). He says, "I don't like to think farther than a year ahead. If you set your goals too far ahead, you stifle your own momentum.

"It's not exactly run for fun, but I take things in stride. It wouldn't be unreasonable for me to train my ass off for a year and not make any improvement. Plateaus can happen."

**Paul Geoffrey Geis:** Eugene, Ore. (Oregon Track Club). 20 years old (born Feb. 23, 1953) at Houston, Tex.), 5'11", 145 pounds. Student at University of Oregon. Single. Began racing in 1968 at age 15. Coached by Bill Dellinger.

**Racing:** 880—1:58.3 (71); mile—4:05.6 (73); 2 miles—8:24.8 (73); 3 miles—13:18.8 (73); 5000m—14:02 (73).

**Training:** twice a day except Sunday, 7 days a week, 11½ months a year; 80-90 miles a week.

At Oregon, the runners follow a three-phase program. "During Phase I," says Geis, "we keep up our mileage and build up our strength with cross-country training. Phase II is a transition into indoor track, still keeping up the mileage but throwing in some quality track work. Phase III is hard work, typically three hard days of intervals with rest days—light running—in between. And on Sunday we only run once, 12-15 miles."

He says a hard Phase III workout includes a warmup, some hard quality-type running (i.e., repeat three-fourth-miles), followed by a ½-mile run. The workout finishes off with some shorter quality work, usually 110s.

Geis says, "We rarely run over 90 miles a week, and that includes six miles every morning except Sunday. That'll really psych some guys when they start to deduct 36 miles from 90..."

### JACKI HANSEN

Jacki Hansen took a fast and somewhat unorthodox route to her recent Boston marathon victory (she won the women's division in 3:05:59.2).

Two years earlier, she wasn't running at all except in college gym classes. She has never done much road running.

But that's not to say she doesn't train extensively.

Jacki works with Laszlo Tabori. Tabori (who came from Hungary to the US in the '50s with his coach, Mihaly Igloi) was one of the earliest sub-four-minute milers. Tabori trained almost exclusively on intervals, and the runners he now coaches in Southern California do the same.

"My training with Laszlo began in March 1971," Jacki says. "Three months and 20 pounds later, I competed in my first AAU track meet, winning the 880 in 2:22. But in my second meet—the nationals—I ran about the same time and came in very much last."

She continued as a shorter distance runner until last December. A week after finishing 15th in the national AAU cross-country, she ran the Culver City marathon. Her training had been intervals three nights a week—"adding up to about 15 miles of short distances, differing paces"—and steady runs no longer than one hour the other three nights, plus a race. She ran 3:15. Boston was her second race at the distance.



Doug Schwab photo

**Jacqueline Ann Hansen:** Granada Hills, Calif. (California State University at Northridge). 24 years old (born Nov. 20, 1948, at Binghamton, NY), 5'2", 108 pounds. College student. Single. Began racing in 1971 at age 22. Coached by Laszlo Tabori.

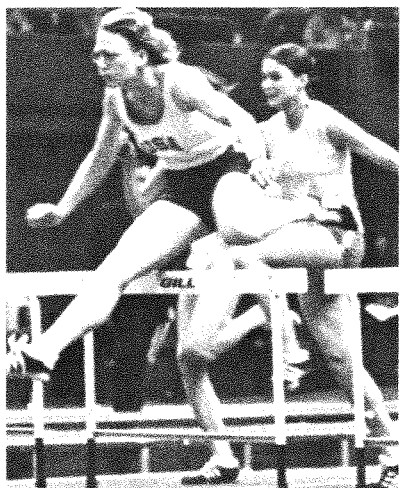
**Racing:** 1500m—4:36 (72); 2 miles—10:45 (73); 5000m—17:48 (73); 30kms.—2:12:22 (73); marathon—3:05:59 (73).

**Training:** once or twice a day, 7 days a week, 12 months a year. "In March, a long discussion with Laszlo Tabori brought the decision to go to Boston. The training immediately changed. Other than a brief injury with the achilles, it was consistently around 20 miles a day for a month—one interval workout and one long run each day:



"Monday, Wednesday and Friday mornings—6-7 miles on the track, speed. Evenings—1½-hour runs. Tuesday and Thursday mornings—one-hour runs. Evenings (also Saturdays)—mixed intervals up to 16 miles collectively. Sundays—10-15 miles. Training is almost exclusively on grass.

"I train exactly as Laszlo outlines it, because I have total faith that he is the best distance coach in the country—if not the world. The results were bound to come. Laszlo deserves all the credit."



George Beinhorn photo

## PATTY JOHNSON

Patty Johnson is the best hurdler in US history. She holds three world and four American records and has raced in two Olympics and almost every international meet open to American women in the last six years. But she still feels unfulfilled as a runner.

Indoors, Patty is as good as anyone. She set her three world records there, at 50 and 60 yards and 100 meters. "This is my favorite racing season," she says.

But outdoors, she isn't quite where she wants to be. She didn't make the Olympic final last year, so is looking ahead now to Montreal.

She says she wants to be able to say, "I am not only the best hurdler in the US, but in the world. I want to win a medal—preferably gold—at the Olympics, to be consistently on top and not a flash-in-the-pan type, and to be known as a very competitive athlete in every sense of the word."

**Patty Jean Van Wolvelaere Johnson:** Seattle, Wash. (Club Northwest). 23 years old (born April 15, 1950) at San Diego). 5'7", 133 pounds. Secretary. Married. Began racing in 1965 at age 15. Self-coached.

**Racing:** 50y hurdles—6.4 (world indoor record, 72); 60y hurdles—7.4 (world indoor record, 72); 100m hurdles outdoors—13.0 (American record, 72); 100m hurdles indoors—13.4 (world record, 73); 200m hurdles—26.7 (70); 100m—11.8 (71); 200m—24.2 (71); 400m—55.8 (70).

**Training:** once a day, 4-6 days a week, 10-11 months a year.

"I have four different stages of training a year: distance in the fall, indoor training, spring and summer competition training.

"In the fall, I try and do distance running up to three miles in parks or on roads when I feel like it, which would usually be 4-5 times a week.

"My winter training consists mainly of hurdling and sprinting indoors, and weight training. I have done weight training every winter since '67 and am a firm believer in its virtues. I really like the strength I gain from it and the improvement in speed. I prefer to work on weights three nights a week, but with competition it's usually twice a week.

"My track workouts during the spring (March and April) are mostly intervals. Indoors this consists of a lot of short sprints, but when I move outdoors the intervals are longer—such as 2 x 660 at 1:58-2:02, or 3 x 330 at 52-56, or 4 x 220 under 30. From late spring on, I work more on hurdles, sprint starts and shorter intervals—220s, 110s, 55s, or lots of 150s and 75s.

"Hurdling takes up a lot of time in my workouts, as it should. I usually hurdle three times a week, and even on the days I don't actually run the hurdles I still do lead- and trail-leg exercises over them. This is the time when I can best concentrate on using proper body form and arm action, thinking of total control while being relaxed, not straining. I always set up all 10 hurdles at practice because even if I don't run through all of them it helps me mentally to be used to seeing the whole flight.

"I don't have written workouts and I don't use a stop watch much except for longer intervals and to time myself from the start of my touchdown over the first and second hurdle. I feel regimented with written workouts, and this way I leave myself flexible."



by George Sheehan M.D.

## MEDICAL ADVICE

### SPORTS MEDICINE

Notes from the American College of Sports Medicine convention at Seattle in April:

● **Effects of heat**—Danger of dehydration continues to be underestimated. Loss of 3% body weight puts the runner in a dangerous position. Dr. Carl Gisolfi (1) urged repeal of the rule prohibiting fluid stations in the first seven miles of long distance races; (2) suggested a minimum of 10 ounces of fluid every 20 minutes during a race. Washington University physiologists listed the priorities as fluid, salt, chlorides and potassium. Taking equal amounts of tomato juice and water would provide this, but this mixture was not tested for gastric irritation and absorption.

● **Muscle fibers**—Performance in a 10-mile race showed an almost exact correlation to the ratio of "slow-twitch" and "fast-twitch" fibers in runners' muscles. Dr. David Costill used muscle biopsy to find that the greater the percentage of slow-twitch fibers (which carry most of the usable glycogen) the faster the 10-mile time. This percentage is fixed for each individual and cannot be altered by training, diet, or any other physiological trick. Costill's conclusion: champions are born, not made, and the muscle biopsy will find them out.

● **Psychology of activity**—Persons involved in fitness programs are more likely to continue in the activity and enjoy it if they have a positive sports preference. Dr. R. B. Karst studied an exercise program for faculty members at the University of Nebraska and came to that conclusion. Sport preference, degree of participation and physical change went hand in hand. Moral: Do what you like and the rest will be added on.

### OVER-BUILDING

Q: *I am 45 years old, 180 pounds, have been passing physicals with flying colors and run as a norm two or three miles a day without much effort. I have been curious to train for and run in marathon. However, the physical therapist we have at the company feels that any running much over two miles per day has*

*a tendency to over-build certain muscles at the expense of others. Would it be too much to ask a brief opinion on this and the long-term effects of running? (J. B., Lancaster, Pennsylvania)*

A: Any repetitive act will over-build certain muscles at the expense of others. Running tends to increase the strength of the hamstrings and the back muscles. They tend to shorten and tilt the pelvis backward, causing lordosis or sway back. The ultimate result of this is usually low back or sciatic pain. The remedy is abdominal exercises, specifically bent-leg situps.

I would caution you about marathons. For your measurements, you are far from the ideal candidate. Most of us long distance runners have a weight roughly equal to our height in inches doubled. The majority of us run about 5'10", 140 pounds.

We are peculiarly fit for this sport, physically and psychologically. Few of us would ever get to be a president of a large company. We are withdrawn, ambivalent, indecisive, cerebral, manually inept people.

I would suggest that your sports addiction may lie in another area. Perhaps something where your strength is a factor or where you don't have to fight gravity—like cycling, skating or swimming.

The leisure-exercise-fitness problem is an uncharted field. Constitutional psychology is the best empirical method we can use at the present time for sports selection.

### MENSTRUATION

Q: *Female readers would be interested to know if so-called pre-menstrual tension causes any measurable physiological effects which could influence aerobic and anaerobic running performances. My own observations indicate that on "those bad days" workouts involving speed and anaerobic endurance are the most difficult—my intervals are slower than usual, and I tend to fade out as soon as I get winded. Long, slow runs, on the other hand, provide relatively little trouble, and can even make me feel better. Have there been any studies on this subject? (P. L., Oregon).*

### NORDIC WORLD

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A: The pre-menstrual days are usually marked by pain, headache, bloating and, in younger women, skin eruptions. The main observable phenomenon is fluid retention.

In one Finnish study of 1000 women, sports participation significantly reduced signs and symptoms of pre-menstrual problems. But other than that, no recent research is indexed in the literature.

I know there is passing mention to athletic performance during those days in an article in the popular press. My memory is that Olympic medals have been won and world records broken during this time.

Your own experience suggests that anaerobic activity can suffer during that time. I doubt that the exact mechanism for that would be known even to exercise physiologists. The experts have more to learn from the athlete than vice-versa—especially in the field of women's sports.

### RUNNING SURFACE

Q: *Shortly after I began running on the streets, I experienced pain in the back of my knee. It eventually spread to my other leg and to the front of both knees and thighs. Then I started running on grass surfaces and the pain disappeared. But recently, while still on grass, it has returned. What can be done? (D.H., New Jersey).*

A: I found when I played tennis that a set on asphalt would finish my legs, but that I could play on grass all day. Grass, however, does tend to be uneven and does cause changes in foot strike that could cause knee problems. In addition, you may have a basic biomechanical problem in your foot that needs some special support. Many runners with pain in the back of the knee have very high arches. Finally, exercises to stretch the achilles and hamstring muscles may be valuable to you.

### TAPING

Q: *In the April issue, you wrote that "taping may be hazardous since you may tape your feet in the wrong position." What is the right position, and why is the wrong position dangerous? (M. A., Ill.)*

A: The feet should be taped in their "neutral" position. This is the position the foot assumes when anatomically aligned, and is usually slanted somewhat with the inside 6-7 degrees higher than the outside—with the arch preserved.

Some runners and basketball players who have had outer side ankle sprains tend to tape the foot so it is flattened out, thereby increasing the strain on the arch. This should be avoided.



# AUGUST COMING EVENTS

This section includes all known national, regional and AAU district championships—running and race walking, at all distances—plus selected other major races. Obviously, we don't have them all, often because no one let us know the details. Please send your schedules at least two months before the event.

Information here includes date, name and site of meet, starting place and time, entry limitations, name and address of director if known. Since information often changes without notice, we suggest you write ahead for information before traveling long distances.

This issue includes an updated list of individuals to contact for schedules of open distance runs and walks in their areas.

Send race listings to RW, Box 366, Mountain View, Calif. 94040.

## NORTHEAST

- 5 Regatta Day marathon, Barryville, NY (10 a.m.; open; William Kroohs, Barryville, NY 12719).
- 12 Connecticut AAU cross-country (10,000m),

New Canaan, Conn. (open; John Boitano, Fairfield University, Fairfield, Conn. 06430).

- 19 Puerto Rican Hispanic marathon, New York, NY (Central Park, 9 a.m.; open; Kurt Steiner, 1660 E. 21st St., Brooklyn, NY 11210).

## SOUTHEAST

- 21 Greens-Winston marathon, Greensboro to Winston-Salem, NC (6 a.m.; open; Scott Brent, 2725 Brightwood Ct., Winston-Salem, NC 27107).

## MIDWEST

- 3-4 USTFF Junior Championships, Bowling Green, Ohio (ages 18 and under).
- 4 National AAU Junior 15-kilometer, Michigan City, Ind. (ages 19 and under; Steve Kearney, 1202 Jefferson Ave., Apt. 9, Chesterton, Ind. 46304).
- 10 USTFF national 10-mile, Cudahy, Wisc. (open; Wulf Koehlert, 2974-A S. Herman St., Milwaukee, Wisc. 53207).
- 11 Paavo Nurmi marathon, Upson to Hurley, Wisc. (8 a.m.; open; Hurley Chamber of Commerce, Silver St., Hurley, Wisc. 54565).
- 14-16 National AAU Junior Olympics, Ann Arbor, Mich. (University of Michigan; ages 18 and under; AAU House, 3400 W. 86th St., Indianapolis, Ind. 46268).
- 18 Quincy marathon, Quincy, Ill. (sunrise; Don Schroeder, 425 S. 14th, Quincy, Ill. 62301).
- 19 Minnesota AAU 20-kilometer, Bloomington, Minn. (open; Chuck Ceronky, 9125 Meadowview Rd., Bloomington, Minn. 55420).
- 19 National AAU Junior men's track, Chicago, Ill. (Stagg Field; limited to non-national champions; Ted Haydon, Track Coach, University of Chicago, Chicago, Ill. 60637).

## ROCKIES

- 4 Marathon, Guanella Pass to Idaho Springs, Colo. (open; Bill Shafer, Box 112, Idaho Springs, Colo. 80452).
- 3-4 National AAU age-group track, Lakewood, Colo.
- 4 National AAU 15-kilometer, Littleton, Colo. (open; Joe Arrazola, 12336 E. Kentucky Ave., Aurora, Colo. 80010).
- 12 Pike's Peak marathon, Manitou Springs, Colo. (7:30 a.m.; open; Don McMahill, Camp Crockett, Rye, Colo. 81069).

## WEST

- 4 Ocean to Bay marathon, Half Moon Bay to Belmont, Calif. (Martin's Beach, 7 a.m.; open; Richard Perry, 3909 Peppertree Ct., Redwood City, Calif. 94061).
- 4 Resurrection Pass Trail marathon, Hope, Alaska (10 a.m.; open; John Trent, 1700 Tudor Rd., Anchorage, Alaska 99507).
- 18 Seaside Beach Run (7¼ miles), Seaside, Ore. (11:30 a.m.; open; Ralph Davis, Seaside Chamber of Commerce, P. O. Box 7, Seaside, Ore. 97138).
- 25 Juneau marathon II, Juneau, Alaska (7 a.m.; open; Floyd Strain, R.R. 4, Box 4670-5, Juneau, Alaska 99801).

## INTERNATIONAL

- 16-1 World Student Games, Moscow, USSR (qualified students only).
- 24-6 European Junior championships, Duisburg, West Germany (Europeans ages 19 and under).

## RACE WALKING

- 5 National AAU 40-kilometer, Long Branch, N.J. (open; Elliott Denman, 28 N. Locust Ave., West Long Branch, N.J. 07764).

## AQUATIC WORLD

Are you interested in swimming? Maybe you swim as a supplement to running? Well, anyway, I think you would be interested in our new publication on swimming called **Aquatic World**. We will cover swimming, diving and water polo in the same way as we cover running in **R.W.**

**Aquatic World Magazine**  
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## Rochester Marathon

Monday, Sept. 3 (Labor Day), 10 a.m.  
(Rochester, New York)

- Certified course.
- Entry fee \$2.00, due with entry—Checks payable to Rochester Road Runners.
- Report to Central YMCA, 100 Gibbs St. (one block east of Main St., Downtown Rochester) by 8:30 a.m.
- Awards: Open, 1-3 trophies; 30-39, 1-3 trophies; 40-49, 1-3 trophies; 50 & over, 1-3 trophies; women, 1-3 trophies. Merchandise, certificates to all finishers.

Send entries to: D.C. Balsamo, 156 Lafayette Parkway, Rochester, N.Y. 14625.  
Phone: (716) 381-9246.

## ANDREW JACKSON MARATHON

(COURSE AAU CERTIFIED)  
Jackson, Tennessee—September 29

- Trophies to first 5, medals to second in each division: 17 & under, open, 30-39, 40-49, 50 & older, women.
- Out-and-back course over rolling terrain. Free lunch to all participants. A half-marathon will also be run.

### Contact:

**Burt Parker,**  
General Director, YMCA,  
P.O. Box 3264,  
Jackson, Tenn. 38301

# RACING HIGHLIGHTS

## TRACK ROUNDUP

There wasn't much doubt about it. Rick Wohlhuter (see "Interview") was the outstanding runner for May—and for the year thus far. Wohlhuter contributed a 1:44.8 anchor half-mile to the University of Chicago Track Club's world record two-mile relay. Then two weeks later he broke the world open half mark with 1:44.6.

Among women, Francie Larrieu was tops. Francie set an American outdoor record in the mile with 4:38.7, though she has a faster indoor time. She also broke the listed two-mile best with 10:02.8, but she has twice gone faster (as low as 9:44) in unrecognized races.

Francie did lose, however, to 14-year-old Mary Decker. That was in a half-mile the same day Wohlhuter set his men's mark. Decker ran 2:03.6, and Wendy Koenig 2:03.8, with Larrieu well back.

Recent records:

**50 yards**—Mel Pender (US), 5.8 at Salt Lake City, May 25, unofficially tying world indoor record (Pender is a professional).

**100 yards**—Steve Williams (US), 9.1 at Fresno, Calif., May 12, tying world and American records.

**500 yards**—Larry James (US), 53.9 at Salt Lake City, May 25, unofficially breaking world indoor record of 54.4 (James is a professional).

**500 meters (indoors)**—Lee Evans (US), 1:02.0 at San Diego, May 19, unofficially breaking world indoor record of 1:02.8 (Evans is a professional).

**500 meters (outdoors)**—Horst Rudiger Schloske (West Germany), 1:00.6 at Berlin, April 29, tying world record.

**880 yards**—Rick Wohlhuter (US), 1:44.6 at Los Angeles, May 27, breaking world and American records of 1:44.9.

**1000 meters**—Chris Fisher (Australia), 2:19.7 at San Diego, May 19, unofficially breaking world indoor best of 2:20.4 (Fisher is a professional). Tom Von Ruden was under his American record with 2:20.0.

**Women's 400-meter hurdles**—Maria

Sykora (Austria), 55.6 at Birmingham, England, May 27, breaking world record of 59.1.

**2-mile relay**—UCTC, 7:10.4, at Durham, N.C., May 12, breaking world record of 7:11.6. (Team splits: Tom Bach 1:50.5, Ken Sparks 1:47.1, Lowell Paul 1:48.0, Rick Wohlhuter 1:44.8.)

Lists of the best times for the 1973 season will be published in the August issue, after national championships are run.

## LONG DISTANCES

A number of marks fell in the seldom-run long distances, too. In Britain, Joe Keating ran 40 miles in 3:49:32 (Epsom, April 28), 17 seconds faster than the old best.

John Cramer of Minnesota set three US track records—40 kilometers in 2:27:52 and 25 miles in 2:28:50 en route to a 2:36:58 marathon—at Chicago on May 13. But the big news was a 5:26:40 for 50 miles by Martin Smith of Iowa. Smith took almost a half-hour from Ted Corbitt's American record.

John Vitale and Amby Burfoot have been racing extremely well at the "in-between" distances. They tied in a 1:18:10 25-kilometer race. Later, Vitale went 12 miles 95 yards in an hour, with Burfoot five yards back at the end.

In another hour race, Hal Higdon broke the American masters mark with 11 miles 677 yards.

Bill Scobey had the fastest marathon in recent weeks with 2:17:43. He won that race by more than two miles.

At Canada's Lions Gate marathon, nine runners broke 2:30, led by Tom Howard with 2:21:45.

For sheer size, no American race can top the San Francisco Bay to Breakers. This year, the 7¼-mile run attracted a starting field of 4031! Kenny Moore won for the sixth straight year.

## RACE WALKING

Gerhard Weidner of West Germany lowered the world 50-kilometer walk record to 4:00:27 at Hamburg, April 8. He broke four other marks on the way.

Bill Weigle walked 4:22:27 in oppressive heat to win the national AAU 50-kilometer title from John Knifton (4:30:20). In the one-hour title race, visiting Briton Roger Mills won with 8 miles 252 yards, while Knifton was the first American with 8m 180y.

This section includes races reported

by June 8. We emphasize distance events that aren't generally published elsewhere.

## NORTHEAST

● **Yonkers, NY, April 29**—Eastern Regional AAU 10-kilometer: 1. Arthur Hall (26, NY) 31:21.2; 2. Jim Schindler (22, NY) 31:43; 3. Marcel Philippe (21, NY) 31:53; 4. Frank McCann (22, NY) 32:11; 5. Hector Ortiz (23, NY) 32:18; 6. Ed Bowes (35, NY) 32:34. . . 16. Joe Burns (42, NJ) 34:51. . . 28. Nina Kuscsik (32, NY) 38:45. (61 finished, 16 under 35:00, 30 under 40:00; from Aldo Scandurra and Joe Kleinerman).

● **New York, NY, May 6**—Met AAU 20-kilometer: 1. Arthur Hall (26, NY) 1:04:48.8; 2. Norbert Sandor (20, NY) 1:05:35; 3. Bill Bragg (23, NJ) 1:06:24; 4. Giles Kemp (21, NY) 1:07:41; 5. Roy Lapidus (22, NJ) 1:08:15. . . 16. Jim McDonagh (49, NY) 1:11:36; . . . 22. Joshua Agrons (15, NY) 1:13:19. . . 52. Nina Kuscsik (32, NY) 1:22:21. . . 87. Harry Murphy (60, NY) 1:33:15. (123 finished, 15 under 1:10, 29 under 1:15; from Joe Kleinerman).

● **Westfield, Mass., May 6**—Berkshire Masters 10-mile: 1. Walter Renaud (42, Mass) 54:35.6; 2. Manfred Kandschur (42, Conn) 55:03; 3. Chet Fortier (40, Mass) 57:02 (68 finished in 40-49 division, 9 under 1:00). 50-59—1. Matthew Smith (50, Mass) 1:01:29; 2. Alex Hossack (51, Mass) 1:01:54; 3. James Taylor (50, Conn) 1:02:28 (39 finished, 7 under 1:05). 60-69—1. John Wall (60, Md) 1:05:03; 2. Johnny Kelley (65, Mass) 1:06:23; 3. Otto Essig (67, Mass) 1:11:19 (17 finished, 7 under 1:20). 70-up—1. Carl Willberg (76, NH) 1:30:23; 2. Martin Cavanaugh (75, Mass) 1:30:28. (from Ralph Williams).

● **Middleton, Conn., May 6**—Connecticut AAU 25-kilometer: 1. John Vitale (Conn) & Amby Burfoot (Conn) 1:18:10; 3. John Foran (Conn) 1:20:36; 4. Kevin Moats (Conn) 1:22:30; 5. Jim Hall (Conn) 1:22:54. . . 17. Vin Fandetti (40+, Conn) 1:29:22. . . 48. Kathy Lynch (Conn) 1:46:32. (65 finished, 8 under 1:25, 18 under 1:30, 37 under 1:40).

● **New York, NY, May 12**—Women's six-mile: 1. Kathy Shrader (14, NY) 36:48.8; 2. Anita Scandurra (17, NY) 37:08; 3. Nina Kuscsik (33, NY) 37:37; 4. Diane Andrade (17, NY) 37:41; 5. Francis Goulat (35, Conn) 38:12. . . 34. Joan Fleischman (45, Pa) 48:27. (96 finished, 10 under 40:00, 18 under 45:00; from Joe Kleinerman).

● **Plattsburgh, NY, May 12**—Champlain Valley marathon: 1. Ralph Thomas (Me) 2:27:40; 2. Richard Chavinard (Que) 2:32:32; 3. Jacques Maingay (Que) 2:36:48; 4. Bob Lazenby (Ont) 2:39:31; 5. Herb Parsons (Mass) 2:39:56. . . 12. Douglas Wolfe (42, Ont) 2:48:36. . . 67. Sue Brown (Vt) 3:50:04. (101 finished, 25 under 3:00, 52 under 3:30, 71 under 4:00).

● **Brockton, Mass., May 12**—New England AAU one-hour: 1. John Vitale (Conn) 12m 95y; 2. Amby Burfoot (Conn) 12m 90y;



3. Larry Olsen (Mass) 11m 1380y; 4. Ken Mueller (Mass) 11m 1065y; 5. Rick Bayko (Mass) 11m 770y; 6. Peter Kuchiwski (Mass) 11m 570y; 7. Walt Renaud (40+, Mass) 11m 360y. . . E. Whitney (52) 9m 635y. . . Sara Berman (37) 8m 741y. . . L. Young (61) 8m 50y. (from Bob Campbell).

● **Manassas, Va., May 19**—5-mile: 1. Tom Childers (Va) 24:24; 2. Jack Mahurin (Md) 24:55. . . 24. George Phillips (40+, Va) 28:50. . . 48. Teri Johnson (1st woman) 32:21. (99 finished, 35 under 30:00; from Bob Thurston).

● **Yonkers, NY, May 20**—Yonkers marathon: 1. Norbert Sander (30, NY) 2:25:56.2; 2. Bill Bragg (24, NJ) 2:26:02; 3. Roy Lapidus (23, NJ) 2:29:11; 4. Pat Bastick (39, NY) 2:32:45; 5. Bill Harvey (27, England) 2:33:25; 6. John Butterfield (36) 2:34:25; 7. Paul Huyffer (35, Mass) 2:35:37; 8. Mark Williams (23, Cal) 2:35:52; 9. Jim Bowles (23, NY) 2:36:16; 10. Hector Ortiz (22, NY) 2:36:20. . . 13. Jim McDonagh (49, NY) 2:37:30. . . 58. Ted Corbitt (53, NY) 2:55:50. . . 63. Nina Kuscsik (33, NY) 2:58:50. . . 92. John Wall (60, Md) 3:11:27. (164 finished, 68 under 3:00, 125 under 3:30, 163 under 4:00; 60 degrees, rain; from Joe Kleinerman).

## SOUTHEAST

● **Daytona Beach, Fla., April 22**—4-mile beach run: 1. Frank Shorter (Fla) 19:50; 2. Ken Misner (Fla) 19:57; 3. Barry Brown (Fla) 20:04; 4. Marty Liquori (Fla) 20:15; 5. Brian Quinn (Fla) 20:44; 6. Chris Carey (Fla) 20:55. (196 runners in four-mile; from Terry Smith).

● **Knoxville, Tenn., May 5**—Southern Regional AAU one-hour: 1. Eddie Leddy (21, Tenn/Ireland) 11m 1716y; 2. P. J. Leddy (21, Tenn/Ireland) 11m 1350y; 3. Kevin Breen (21, Tenn/Ireland) 11m 1332y. . . Lloyd Lundin (53, Tenn) 9m 89y. . . Peggy Birmingham (25) 6m 130y. (20 runners, 8 over 10 miles; from Hal Canfield).

## MIDWEST

● **Des Moines, Iowa, April 28**—Drake Relays marathon: 1. Lucian Rosa (Wisc/Ceylon) 2:25:18.4; 2. Tony Brien (Kans) 2:27:03.4; 3. Bruce Hannula (Mich) 2:29:18.4; 4. Eric Thornton (Ill) 2:31:42; 5. Charles Burrows (Minn) 2:33:03; 6. Ron Peters (Ia) 2:34:02; 7. Dan Winzenried (Wisc) 2:35:42.8; 8. Galen Green (Ia) 2:36:09.8; 9. Allen Gilman (Minn) 2:36:43; 10. Greg Clauson (Mo) 2:37:00. (84 finished, 39 under 3:00, 64 under 3:30, 79 under 4:00).

● **Champaign, Ill., April 29**—Central AAU one-hour: 1. Hal Higdon (41, Ind) 11m 677y (US Masters record); 2. Phil Davis (27, Ill) 11m 257y. . . 22. Mal Shurtleff (50, Ill) 9m 152y. . . 26. Diane Bell (15, Ill) 8m 146y. (37 runners, 12 over 10 miles; from Steve Goldberg).

● **Cadiz, Ohio, April 29**—Cadiz Rotary 15-mile: 1. Paul Talkington (26, Ohio) 1:15:03; 2. Carl Hatfield (25, WV) 1:17:25; 3.

Kim Nutter (19, WV) 1:19:08; 4. Felix Rendina (22) 1:20:00. . . Bob Cushen (42) 1:33:18. . . Joe Abbas (57) 1:47:32. . . Dick Inglis (60) 1:54:48.

● **Chicago, Ill., May 13**—50-mile track:

1. Martin Smith (23, Ia) 5:26:40.0 (American record). 50-kilometer: 1. Ken Young (31, Ill) 3:10:45 (2:37:17 at marathon); 2. John Cramer (21, Minn) 3:15:37 (2:36:58 at marathon, American record; also AR at 40 kilometers, 2:27:52, and 25 miles, 2:28:50). 2 hours: 1. Pete Elliott (26, Ill) 20m 876y; 2. Cramer 20m 680y; 3. Young 20m 658y. (mid-50s, cloudy; Tartan track).

● **Stoughton, Wisc., May 19**—20-mile:

1. Dan Winzenried (20, Wisc.) 1:51:06; 2. Dale Roe (25, Wisc) 1:52:35; 3. Stephen Miller (27, Wisc) 1:54:01. . . 14. Lloyd Bostian (41, Wisc) 2:07:12. . . 38. John Archer (58, Wisc) 2:29:48. (75 finished, 7 under 2:00, 36 under 2:30; from Lee Wilcox).

## SOUTHWEST

● **Tulsa, Okla., May 12**—One-hour: 1. Terry Ziegler (22, Okla) 11m 417y; 2. Terry Lewis (21, Okla) 11m 55y; 3. H. E. Barker (42, Okla) 9m 737y. . . 12. Bob Martin (52, Okla) 8m 1523y. (21 runners 2 over 10 miles, 8 over 9 miles; from Vern Whiteside).

## WEST

● **Weott, Calif., May 6**—Avenue of the Giants marathon: 1. Bill Scobey (28, Cal) 2:17:43; 2. Gary Dobrenz (26, Cal) 2:30:45. 3. Ken Scalmanini (29, Cal) 2:33:30; 4. James Maslach (25, Cal) 2:34:13; 5. Ross Smith (45, Nev) 2:36:25. . . 25. Wayne Zook (56, Cal) 2:53:31. . . 69. Irene Rudolf (31, Cal) 2:26:57. . . 73. Walt Stack (65, Cal) 3:36:28. (101 finished, 37 under 3:00, 69 under 3:30, 87 under 4:00).

● **Los Angeles, Calif., May 12**—Southern Pacific AAU 20-kilometer: 1. Ron Kurrie (Cal) 1:01:28; 2. Don Cox (Australia) 1:04:11; 3. Mark Kushner (Cal) 1:04:27; 4. Darren George (Cal) 1:04:37; 5. Doug Schmenk (Cal) 1:04:59. . . 24. Jerry Smartt (41, Cal) 1:09:07. . . 86. Chuck Ruth (50, Cal) 1:23:59. . . 115. Jim Bole (65, Cal) 1:30:43. . . 126. Joyce Rowley (Cal) 1:35:13. (from John Brennand).

● **San Francisco, Calif., May 20**—Bay to Breakers 7½-mile: 1. Kenny Moore (Ore) 37:15; 2. Chris Stewart (Great Britain) 37:17; 3. John Farrington (Australia) 37:23; 4. Domingo Tibaduiza (Nev/Colombia) 37:23; 5. Mike Wagenbach (Cal) 37:30; 6. Tom Hale (Ore) 38:14; 7. Jon Anderson (Cal) 38:22; 8. Peter Duffy (Nev/Great Britain) 38:32; 9. Cliff Clark 38:42; 10. Tim Tubb (Cal) 38:51.

11. William Johnson (Cal) 38:55; 12. Ritchie Geisel (Cal) 38:55; 13. Phil Camp (Cal) 39:03; 15. Jim Dare (Cal) 39:17; 15. Russ Pate (Ore) 39:22; 16. Bob Gray (Ore) 39:38; 17. Dan Anderson (Cal) 39:38; 18. Mark Covert (Cal) 39:46; 19. Fred Maier 39:48; 20. Jeff Clenard (Cal) 39:54.

61. Owen Gorman (40+, Cal) 42:04. . .

181. Cheryl Bridges (Cal) 45:20. (3519 finished, 166 under 45:00, 378 under 50:00, 889 under 55:00, 1569 under 1:00).

## CANADA

● **Toronto, Ontario, May 6**—Canadian 15-mile championship: 1. Brian Armstrong (Ont) 1:20:07; 2. Danny Anderson (Ont) 1:20:56; 3. Bruce Dewsberry (Ont) 1:22:07; 4. George Adams (Ont) 1:24:01; 5. Miro Svab (Ont) 1:24:10. (43 finished, 9 under 1:30; from Lorne Buck).

● **Ottawa, Ontario, May 20**—Canadian 10-mile road championship: 1. Bob Moore (Ont) 50:57.8; 2. Peter Quance 51:28.4; 3. Danny Anderson (Ont) 52:04.8; 4. Bruce Dewsberry (Ont) 52:40; 5. Rich Pyne 52:45. (27 finished, 6 under 55:00, 13 under 1:00; from Norm Patenaude).

● **Vancouver, British Columbia, May 26**—Lions Gate International marathon: 1. Tom Howard (24, BC) 2:21:45.2; 2. Bruce Shaw (27, BC) 2:22:16.4; 3. Wolf Schamberger (27, BC) 2:24:46.4; 4. Rob Hamilton (23, Idaho) 2:24:53.8; 5. Rick Hanna (26, BC) 2:25:21.4; 6. Jack Taunton (25, BC) 2:25:28.6; 7. Carl Christenson (25, BC) 2:28:14; 8. Myron Neville (24, BC) 2:28:24.4; 9. Rob Taylor (32, BC) 2:29:35.2; 10. Bill Herriot (32, Alta) 2:31:26.6. . . 19. Allan Thomson (40) 2:52:01.4. . . 33. Deborah Collins (20, BC) 3:24:38.4. (43 finished, 26 under 3:00, 37 under 3:30, all under 4:00).

## RACE WALKS

● **Cornwells Heights, Pa., April 29**—National AAU one-hour: 1. Roger Mills (Great Britain) 8m 252y; 2. John Knifton (NY) 8m 180y; 3. Todd Scully (NJ) 7m 1573y; 4. Ron Daniel (NY) 7m 1162y; 5. Ron Kulik (NY) 7m 1020y; 6. Tom Knatt (Mass) 7m 984y; 7. Howard Palamarchuk (Pa) 7m 927y; 8. Gary Westerfield (NY) 7m 667y; 9. Bob Falcicola (NJ) 7m 209y; 10. Randy Mimm (Pa) 7m 174y; (32 walkers, 11 over 7 miles, 22 over 6½ miles).

● **Portland, Ore., May 6**—National AAU junior 15-kilometer: 1. Jim Bentley (Nev) 1:18:26.2; 2. Brad Bentley (Nev) 1:20:23; 3. Bob Rosencrantz (Wash) 1:20:42; 4. Bryan Snazelle (Nev) 1:23:15; 5. Scott Massinger (Ore) 1:24:29; 6. Al Schurman (Idaho) 1:25:33. (10 finished, 7 under 1:30; from Don Jacobs).

● **Des Moines, Iowa, May 20**—National AAU 50-kilometer: 1. Bill Weigle (Cal) 4:22:27; 2. John Knifton (NY) 4:30:20; 3. Ron Laird (Cal) 4:35:51; 4. Jerry Brown (Colo) 4:37:18; 5. Floyd Godwin (Colo) 4:38:10; 6. Bob Henderson (Cal) 4:41:23; 7. Augie Hirt (Kans) 4:48:50; 8. Bob Bowman (Cal) 4:52:19; 9. Dan O'Conner (NY) 4:53:19; 10. Ron Daniel (NY) 4:56:27; 11. Al Shrik (Mo) 4:56:43; 12. John Kelly (40+, Cal) 4:58:16. . . 24. Larry O'Neil (60+, Mont) 5:55:12. (27 finished, 18 under 5:30; 81 degrees; from Mike Sullivan).

# CLASSIFIED NOTICES

Reach over 16,000 subscribers with your advertisement in *Runner's World*.  
Rates: meet/race notices 15 cents per word; general notices 20 cents/word.  
Deadline for August issue was July 2; September deadline is August 6.

**ALBUQUERQUE MARATHON**—Sunday, October 21, 1973, at 7:30 a.m. Awards: Open, 1-25 places; Masters, 1-5 places; Youngest finisher; First Woman finisher; T-Shirts to all finishers. Entry Fee—\$2.50. Contact: NMTC, P.O. Box 4071, Albuquerque, N.M. 87106.

**NATIONAL AAU JUNIOR 15-KILOMETER CHAMPIONSHIP**—for runners 19 and under. Near Michigan City, Ind., Aug. 4, 7 p.m. Also an open and masters' race. For information, send stamped return envelope to: Steve Kearney, 1202 Jefferson Ave., Apt. 9, Chesteron, Ind. 46304.

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**3rd ANNUAL RESURRECTION PASS TRAIL MARATHON**—Saturday, Aug. 4, 1973 at 10 a.m., Alaska's Most Scenic Marathon over Chugach National Forest Trail. Mile No. 1 to East Creek Cabin & return. \$2.00 entry fee includes Alaska A.A.U. Contact: Pulsators—John Trent, 1700 Tudor Road, Anchorage, Alaska 99507. Entry deadline—July 27, 1973.

**TIGER—NIKE**—Tiger Cortez \$18.95 (6-12), Boston \$16.95 (6-12), Tahoe \$17.95 (7½-11½), Nike Cortez II \$18.95 (6-11½), Nylon Obori \$16.95 (6-12), Marathon \$12.00 (6-12). Add \$1.00 per pair postage. The Jog Shop, James Morris, 1203 E. Warren, Brownfield, Tex. 79316.

**MARIST COLLEGE DISTANCE RUNNING CAMP**—Aug. 19-24, Poughkeep-

sie, New York. Boys 11-17. \$80. Barry Brown and other top international runners from Florida Track Club featured. Each runner receives personalized running profile on himself when leaving. Individualized instruction and top international runners and lecturers. Write for free brochure: Rich Stevens, Track Coach, Marist College, Box 841, Poughkeepsie, N.Y. 12601.

**1973 GRAND VALLEY Y.M.C.A. MARATHON**—Saturday, Nov. 10. Three different races: 6½-mile, 13-mile and 26 miles, 385 yards. For more information contact: Grand Valley Y.M.C.A. Marathon, Central Y.M.C.A., 33 Library N.E., Grand Rapids, Mich. 49502.

**BIKE WORLD**—You can't run everywhere, and some places you want to get to a little faster than walking, but not driving the "beast." Bicycling is a world of physical fitness, endurance sports and just fun riding that is very similar in spirit to running. \$3. per year (6 issues). Write us for information at P.O. Box 366, Mountain View, Calif. 94040.

**GREENSBORO TO WINSTON-SALEM MARATHON**—Sat., August 18, 1973. Greensboro, North Carolina. For information write: Scott Brent, 2725 Brightwood Ct., Winston-Salem, N.C. 27107.

**BLUE RIDGE TRAILS 1973 DISTANCE TRAINING CAMP**—in the Blue Ridge Mountains of N.C. Aug. 13-16. \$50.00 per week. Join Jeff Galloway, Neil Cusack, Eddie Leddy and other national caliber distance runners. Write or call: Coach Bill Keesling, P.O. Box 28544, Furman University, Greenville, S.C. 29613.

**BOOKS WANTED:** Greek Athletes and Greek Athletics by Harold Harris, 1964 or 1966; Olympia: Gods, Artists, and Athletes by Drees. Send condition, price—Larry Larson, 909 Ostergaard, Racine, Wisc. 53406.

# RUNNING SHORTS

● Meinrad Nagele, editor of the German-language magazine *Condition*, has found useful running advice in an unlikely place. He learned how to deal with the dog menace by "reading the dog's mind." His inspiration came from the book *Man Meets Dog* by animal psychologist Konrad Lorenz.

Lorenz says that when one dog encounters another, or when he faces off with a human runner, the dog's tail acts as a barometer of self-confidence. If the tail is erect, it means that the dog feels confident and unafraid. But if he lets his tail fall, he is admitting he will no longer stand his ground if threatened.

Ears also give away the dog's confidence. Straight up means "alert, confident." He's ready to fight, if necessary. Laid back close to the head, the ears signal deference or friendliness. The dog means no harm, and wants only to be petted.

The third measure of a dog's aggressiveness is his mouth. A "smiling" expression, with lips drawn far back, indicates "I'd rather not fight." Lips puckered forward, though, are a sure sign that the dog has serious intentions of attacking. Don't provoke him.

Add to this the well-known raised hair on the back of the dog's neck, and you have four indicators of trouble ahead.

If attacked, says Lorenz, don't try to run away. Stand still. Running away just makes the dog think he has won the battle and that it's time to run you down for the kill. Stand your ground and maybe you can bluff him out of attacking.

● At first we weren't going to comment on this. It appeared to be too obvious an error or exaggeration to warrant serious attention. But a large number of readers are taking seriously the recent story in *Parade Magazine* on Winfield Franklin of New Jersey.

Franklin was on the cover of the May 20 issue, and there was a long story inside. Franklin reportedly ran 75 miles on his 75th birthday. He ran it, according to the story, in nine hours 45 minutes.

What's 9:45? It's 7:48 per mile, for one thing. It's also a 6½-hour 50-mile pace. Fewer than 10 Americans of all



# RACING CONTACTS

Nearly every state supports a full program of long distance runs. There is a race a week in many parts of the country. It is impossible to list all those races here. The next best thing is to give the names of individuals closely involved with running programs in the states. You can get details on races by writing to them. Be kind enough to send a self-addressed, stamped envelope.

- NATIONAL AAU—Robert DeCelle, P. O. Box 1606, Alameda, Calif. 94501.
- ALABAMA—Nick Costes, Troy State University, Troy, Ala. 36081.
- ALASKA—John Trent, 1700 Tudor Rd., Anchorage, Alaska 99507.
- ARIZONA—Steve Stephenson, 201 West Flynn Ln., Phoenix, Ariz. 84013.
- ARKANSAS—Rick Richardson, 422B Sierra Madre, North Little Rock, Ark. 72118.
- CALIFORNIA—Bill Gookin, 5946 Wenrich Dr., San Diego, Calif. 92120; John Brennan, 4476 Meadowlark, Santa Barbara, Calif. 93105; Wayne Van Dellen, 37194 Rd. 192, Woodlake, Calif. 93286; Richard Perry, 3909 Peppertree Ct., Redwood City, Calif. 94061; Dick Meyer, Route 1, Box 153A, Eureka, Calif. 95501.
- COLORADO—Joseph Arrazola, 12336 E. Kentucky Ave., Aurora, Colo. 80010.
- CONNECTICUT—John Boitano, Fairfield University, Fairfield, Conn. 06430; Bill Tribou, 27 Hildurcrest Dr., Simsbury, Conn. 06070.
- DELAWARE—(no regular program; see surrounding states.)
- DISTRICT OF COLUMBIA—Larry Noel, 106 Northway Rd., Greenbelt, Md. 20770.

## RUNNING SHORTS (Cont'd.)

ages ran faster last year, and Franklin had to tack another 25 miles onto that.

Looking at it another way, it is 3:25 marathon pace. No man Franklin's age has ever run that fast for a single one, and yet he is said to have done three back-to-back. Highly unlikely!

● Harry Ainsleigh wonders if anyone his weight has ever run a marathon faster than 2:52:07. His weight (before races, presumably) varies between 203 and 205 pounds. (We wonder how many runners have gone "faster than their weight." In other words, a time in minutes less than the weight in pounds? How often do 150-pounders break 2:30, 180-pounders, three hours? Not many!)

- FLORIDA—Florida Track Club, Athletic Dept., University of Florida, Gainesville, Fla. 32601; Ray Russell, 2506 N.E. 8th St., Ft. Lauderdale, Fla. 33304.
- GEORGIA—Tim Singleton, Georgia State University, Atlanta, Ga. 30303.
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- IDAHO—John Mitchell, 3225 Camrose Ln., Boise, Idaho 83709.
- ILLINOIS—Richard King, 5600 South Drexel, Chicago, Ill. 60606; Steve Goldberg, University of Illinois College of Law, Champaign, Ill. 61820.
- INDIANA—Carl Carey, 406 Murphy Lane, Brownsburg, Ind. 46112.
- IOWA—Butch Hammer, R.R. 1, Carlisle, Iowa 50047.
- KANSAS—Carl Owczarzak, 4144 Booth Pl., No. 7, Kansas City, Kans. 66202; Arne Richards, 1430 Fairchild, Manhattan, Kans. 66502.
- KENTUCKY—(no regular program; see surrounding states.)
- LOUISIANA—Cy Quinn, 3646 Piedmont Dr., New Orleans, La. 70122.
- MAINE—Joe Dahl, R.F.D. 1, Yarmouth, Me. 04096.
- MARYLAND—Larry Noel, 105 Northway Rd., Greenbelt, Md. 20770; Les Kinion, 1363 Halstead Rd., Baltimore, Md. 21234.
- MASSACHUSETTS—Bob Campbell, 39 Linnet St., West Roxbury, Mass. 02132.
- MICHIGAN—William Keller, 2519 Clifton Ave., Lansing, Mich.; Edward Kozloff, 10144 Lincoln, Huntington Woods, Mich. 48070.
- MINNESOTA—Pat Lanin, 234 North 7th Ave., Hopkins, Minn. 55343.
- MISSISSIPPI—(no regular program; see surrounding states.)
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- MONTANA—Larry O'Neil, 233 5th Ave. East, Kalispell, Mont. 59901.
- NEBRASKA—Louis Fritz, Verdon, Neb. 68457.
- NEVADA—Las Vegas Track Club, Box 869, Las Vegas, Nev. 89109.
- NEW HAMPSHIRE—Bob Campbell, 39 Linnet St., West Roxbury, Mass. 02132.
- NEW JERSEY—Browning Ross, 306 West Center St., Woodbury, N.J. 08096; James Nicholas, 86 East Shore Rd., Denville, NJ 07834.
- NEW MEXICO—Charles Harris, 2205 Ambassador N.E., No. 133, Albuquerque, N.M. 87112.
- NEW YORK—Aldo Scandurra, 22 Monet Pl., Greenlawn, N.Y. 11740; Don Balsamo, 156 Lafayette Parkway, Rochester, N.Y. 14625.
- NORTH CAROLINA—Bob Boal, P. O. Box 5676, S.U.S., Raleigh, NC 27607.
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- OKLAHOMA—Vern Whiteside, 6916 S. Knoxville Ave., Tulsa, Okla. 74136.
- OREGON—Richard Raymond, 2575 N.W. Lovejoy, No. 37, Portland, Ore. 97210; Stan Stafford, 1778 N.W. LeMans, Roseburg, Ore. 97470.
- PENNSYLVANIA—Browning Ross, 306 West Center St., Woodbury, N.J. 08096; C. A. Herman, 5001 Lougean, Pittsburgh, Pa. 15207.
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- TENNESSEE—Hal Canfield, 502 Alandale Rd., Knoxville, Tenn. 37920.
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- WASHINGTON—Jim Pearson, 521 17th St., Bellingham, Wash. 98225; Jim Dunne, Box 133, Pullman, Wash. 99163.
- WEST VIRGINIA—Carl Harfield, 305 Willey St., Morgantown, W. Va., 26505.
- WISCONSIN—Tom Rosandich, University of Wisconsin/Parkside, Kenosha, Wisc. 53140.
- WYOMING—(no regular program; see surrounding states.)

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- BRITISH COLUMBIA—Jack Taunton, Apt. 203, 7227 Balmoral, Burnaby 1, British Columbia.
- ONTARIO—Lorne Buck, 19 Avonmore Sq., Scarboro, Ontario; Norman Patenaude, Laurentian University Track Club, Sudbury, Ontario.
- QUEBEC—Michel Rose, 12232 Armand Bombardier, Montreal, Quebec.

## RACE WALKING

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# READERS' COMMENTS

## HEAT

I consider it relevant to comment on the statement by Carl Foster (News and Views, April 73), in which he incorrectly interpreted Pugh's findings by stating that successful (early-finishing) marathon runners had *lower* post race temperatures than their less successful competitors.

Physiologically, core (rectal) temperature increases linearly with oxygen uptake, relative to an individual's maximal aerobic power. For example, if two runners of similar training and maximal oxygen uptake capacities race against one another, and Runner A performs at 70% of maximum and Runner B at 85%, B will accumulate a higher metabolic heat load because he is working closer to his maximum aerobic capacity. Runner B will be running faster than A, and hence will reach the finish line exhibiting a greater temperature response.

Contrary to Foster's statement, Pugh provided data which associated the *highest* core temperatures tolerated with racing success. Pugh measured the winner of the 1966 Whitney marathon at 41.1 degrees (C), with seven other runners exhibiting core temperatures in excess of 40 degrees. Further, it was observed that the greatest proportion of competitors who placed well back in the field produced temperatures ranging from 39.5 to 40.0.

*Alan D. Claremont Ph.D.  
University of Wisconsin,  
Madison, Wisc.*

## INJECTIONS

If I were forced to choose between condemning cortisone and anti-inflammatory medications for runners or approving them, I would support Dr. Mirkin's condemnation ("Drugs Aren't the Answer," May 73). In practice, however, I am not forced to an all or none approach.

In as much as inflammation and swelling that accompanies soft tissue injury may lead to fibrosis (organization of soft tissue into a more firm, non-yielding type of tissue), anti-inflammatory drugs are sometimes indicated. It cannot be stressed too strongly that these drugs must be tempered with advice to the patient that a false feeling of security will

follow such treatment as a steroid injection for tendinitis, and that this does not mean that uncontrolled running is allowable. If the runner is allowed to run, unchecked, after a steroid injection for tendinitis, he may very well further injure himself or herself.

Repeated cortisone injections are of definite harm for joints as well as tendons. But for some runner's ailments, injections are of definite benefit and need not be followed by a slowdown in running. Among these are bursitis. A bursitis under the heel will often respond dramatically to a combination of drugs.

The main point that I am trying to make is that there are indications for drugs such as cortisone, butazolidin and indocin in the treatment of runners' injuries, provided the doctor is well aware of the runner's ability to cooperate with the treatment program. It is also of extreme importance that the doctor be able to diagnose the real cause of the injury and that the cause be controlled. Certainly drugs will not correct the cause.

An all or none viewpoint as expressed by Dr. Mirkin is certainly safe, and it protects the runner who is in the hands of a doctor who has treated few runners. But it limits those of us who have treated many runners and are sincerely interested in injury causes and prevention, as well as relieving pain for a short period.

*Dr. Steven Subotnick  
Secretary, American Academy of Podiatric Sports Medicine  
Hayward, Calif.*

## DRIVERS

George Sheehan writes ("Exercising of Opposites," May 73) that the runner on the macadam road is "set upon by dogs, jeered by adolescent motorists and endangered by women drivers."

Well, the dogs and the adolescents are problems, to be sure, but in the matter of women drivers, the runner should at least know who his friends are. I have found that it is not the women drivers who drive too fast, who force runners

**NEXT ISSUE: Look in August for special features on running longevity, running's tie with horse racing, and new techniques of race promotion. The interview subject is expected to be Steve Williams, new 100 record holder.**

off the road, who shout insults, who drive when drunk and strew the roadside with their beer cans. It's the men, adolescents at heart if not in age.

Dr. Sheehan's gratuitous slur is both ungenerous and inaccurate.

*Roberts French  
Pelham, Mass.*

## FAMILIES

I have just read the special section on "Running in the Family"—twice. And I must say I agree wholeheartedly with the writers of "What It Does to a Family" and "The Price of Being Alone." I'll be getting a divorce in a few weeks, due in part to my running.

I started jogging five years ago, and as my enthusiasm and mileage increased, my wife seemed to become less important. She tried hard, though, and I'm grateful. Last year, with her help and encouragement, I did the Boston marathon in 3:26 with no strain. This year when I was making sounds about breaking three hours, she definitely got up-tight about it. I guess she thought I'd be satisfied after having run one marathon and I'd settle back to my 3-5 mile "maintenance" runs.

I didn't make Boston this year. I agreed to train only when she wasn't around or when she was at work. As a result I didn't get in shape. Now next year...

*(name withheld)*

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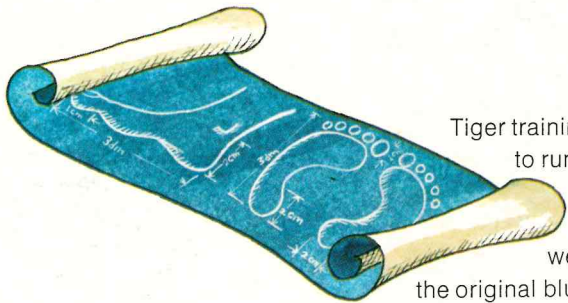
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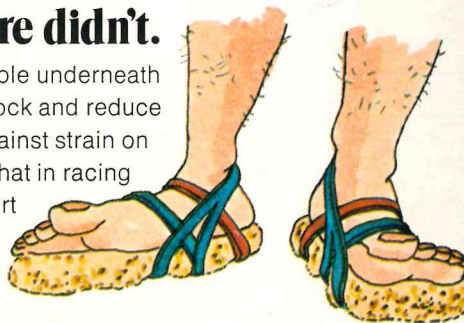
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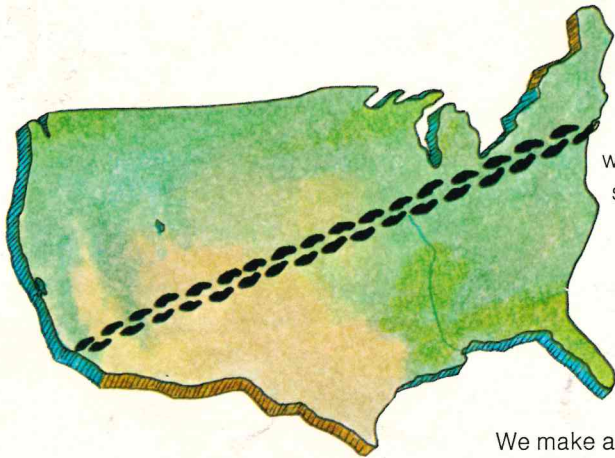
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