

WOMEN'S TRACK WORLD

DECEMBER 1980

VOL. 12, NO. 4

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★ Distance Running
Part III

★ Cholesterol,
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★ U.S. All Time
Top 50

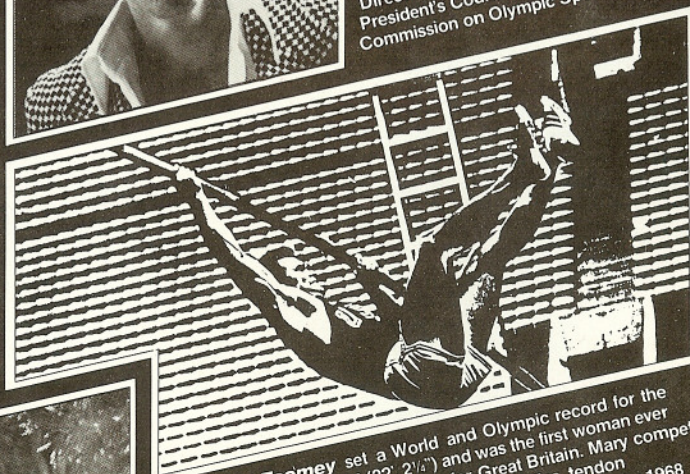
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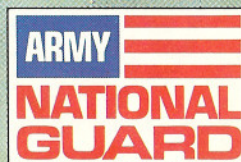
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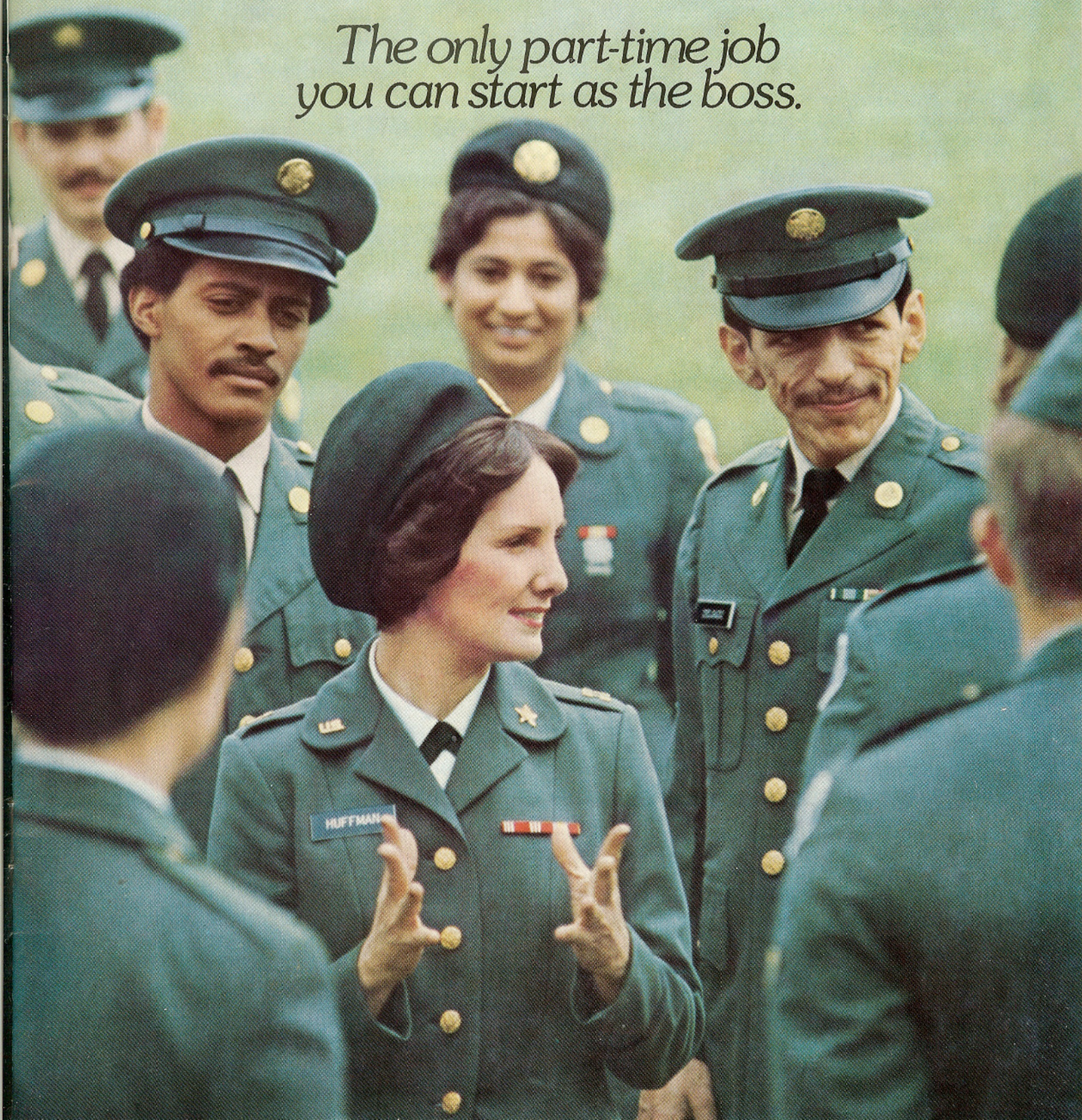
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WOMEN'S TRACK WORLD

VOLUME 12 — NUMBER 4

DECEMBER 1980

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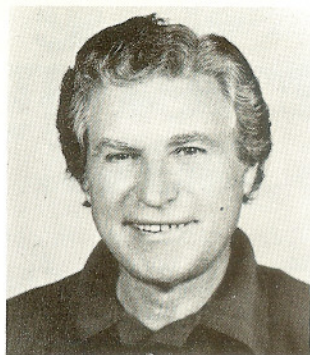


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REEL OFF

Let's talk about (ugh) baseball. Except for championship series this game is usually about as exciting as a migraine headache. It's a great game to play, but not very exciting to watch what with the countless amount of time that nothing is happening — unless you count the number of times the players spit. I actually spent one game in the world series playoffs to count the spits which appeared on television. These were spits observed by players in action — those seen in the background were not recorded. During the fourth game of the series, there were 212 very evident spittooes right on camera. Once in the fifth inning I counted 17 spits **BETWEEN PITCHES!** Of course there are some spitters in track. It is good news that Mary Decker now spits over her left shoulder.

Be that as it may, what I wanted to report on was how watching the base runners from camera high in top of the Kansas superdome showed clearly that lengthening the stride **DECREASES** the speed of the runner. On one occasion in particular, a runner was coming from second base to home on a hit and he maintained his speed all the way until the last 45 feet when he tried to increase his speed by increasing the length of his stride. From the excellent camera work by the cameraman in the ceiling, you could easily see where the runner lengthened his stride and with each stride he moved slower and slower and was thrown out at the plate.

The analogy can be made with an automobile. If you want to pick up speed in a car for a short distance, you do not put the car into overdrive. You shift **DOWN** to a lower gear. You don't start out in high. With all the money involved in baseball, you'd think the managers could use a little advice about running. And you'd think athletes and coaches would investigate a little bit too.

WTW



With only three weeks remaining before the voting is closed, here's the standings for World Athlete of the Year and Area Athlete of the Year of 1980: World Athlete of the Year — Tatyana Kazankina, Nadyezhda Olizaryenko, Nadyezhda Tkachenko, Ilona Slupianek; North America — Mary Decker, Jodi Anderson; Caribbean, Central and South America — Maria Colon, Merlene Ottey; Africa — Mary Chemweno; Asia — Zhen Da-Zhen, Esther Rot; Oceania — Denise Boyd; Western Europe — Sara Simeoni, Grete Waitz; Eastern Europe — Kazankina, Olizaryenko, Tkachenko, Slupianek . . . Iowa State's ace runner, freshman Francine Sandoval, weighs 89 pounds and stands 4'10 . . . The West Valley Track Club is sponsoring "A Preventive Sports Medicine Seminar" at the Hyatt Union Square in San Francisco on Saturday, December 20. Also a "Christmas Relay" around Lake Merced the following day. Contact Carol Jenna, P.O. Box 724, San Leandro, CA 94577 for further information and tickets.

In 1970 there were only 2992 girl's track teams in the USA. Now the number is 13,395. Ten years ago, 3.7 million boys were in interscholastic sports and only 300,000 girls. In 1980, it's 4.2 million boys and 2 million girls. No wonder Women's Track World has more subscriptions and advertising . . . The best marks listed for the women's 5000 and 10000 were made by Loa Olafsson of Denmark. But both were made in "mixed" races so cannot be counted . . . Only one Wisconsin runner will be lost for the 1981 cross country season — Suzie Houston . . . Names I Like for December include: Bird Anderson of CS Bakersfield (who used to be Bunny Vallega), Sandy Waters of Humboldt State, Smoki Harris from Staten Island and Cheryl Herring from Miami . . . University of Washington has two national champions on its team. Regina Joyce was the 1979 British Champion while Petley was the champion of New Zealand . . . When Washington defeated Oregon 46-47 at the Sportswest Invitational, it was the first Oregon defeat to a Region 9 team since 1975 . . . Tennessee will have an indoor meet

on November 22 . . . Speaking of Tennessee, Linda Portasik has been the top Tennessee finisher in cross country for the last two years . . . Arkansas coach Ed Renfrow was impressed with the cross country course for the Southern Illinois Invitational. "The course was as hilly as I've ever seen. There wasn't a flat place on it. Our eyeballs almost popped out when we first saw the course. The hills are so steep some runners were literally walking up them." Reminds me of the remark made by Ruth Caldwell's brother after running a steep course in southern California. "I was going up the hill as fast as I could when this guy passed me — and he was walking!" . . . Add another Name I Like: Karen Fishwild of Iowa.

Quiz Time: What do all the following have in common — Evelyn Ashford, Irena Szewinska, Olga Mineyeva, Lyubov Smolka, Natalia Maracescu, Grete Waitz, Patty Lyons, Vera Komisova, Barbel Broschat, Rosemarie Ackermann, Tatyana Kolpakova, Helena Fibingerova, Evelyn Jahl, Ruth Fuchs and Olga Rukavishnikova? (Answer below) . . . It was a warm day in Evergreen, Colorado, when they staged their Third Annual Race. This year something new was added when a runner (who shall remain nameless) doffed her running shirt with half a mile to go and had the crowd applauding as she crossed the finish line. Race Committee is working on a plan for charging admission to watch The Race in 1980 . . . University of Kentucky has joined the foreign field with the addition of Bernadette Madigan and Denise Kiernan from Great Britain to their squad . . . From the coach's bulletin board: "When the whip touches the thoroughbred, he responds with all the courage in his heart and strength in his body. When the whip touches the mule, he balks and sulks" . . . Rich Perelman says, "The Eastern Bloc countries should be split up and all Western Nations should be given a chance to 'draft' these women" . . . Quiz Time answer: They are all holders of the second best mark ever made in their event.

So you won't be confused, let it be known

(continued on page 26)

The Big Ones Ahead

January	2	Runner's World Invitational (Indoor) • San Francisco	14/15	TFA/USA Heptathlon Championship • TBA			
	5	Muhammad Ali Invitational (Indoor) • Long Beach	28	USC Invitational • Los Angeles			
	9	East Coast Invitational (Indoor) • College Park	28	IAAF World Cross Country Championship • Madrid			
	9	Invitational (Indoor) • Chicago	28/29	Phoenix Invitational • Phoenix			
	17	Invitational (Indoor) • Dallas	April	23/26	Mt. SAC Relays • Walnut, California		
	23	Invitational (Indoor) • Philadelphia		May	2/3	WCAA Conference Championships • San Diego	
	23/24	TFA/USA (Indoor) • Kansas City	9		Southwest Collegiate Championships • Irvine, California		
	24	Jaycee Invitational (Indoor) • Albuquerque	10	Pepsi/UCLA Invitational • Los Angeles			
	24/25	New Zealand Games • Auckland, NZ	14/16	JUCO Championships • San Angelo			
	30	Sunkist Invitational (Indoor) • Los Angeles	16	California Relays • Modesto			
February	30/31	Manitoba Games (Indoor) • Winnipeg	16/17	TAC District Championships • UCLA			
	31	Dallas Times-Herald Invitational (Indoor) • Dallas	21/23	AIWA Division II & III Championships • TBA			
	31/1	Pacific Conference Games • Christchurch, NZ	21/23	NAIA Championships • TBA			
	6	Milrose Games (Indoor) • New York	28/30	AIWA Championships • Austin			
	6/7	Mason Dixon Games (Indoor) • Louisville	28/30	TFA/USA Championships • Wichita			
	7	Oklahoma Classic (Indoor) • Oklahoma City	June	12/14	TAC Championships • TBA		
	7	Vandal Invitational (Indoor) • Moscow, Idaho		15/16	"World Games" • Helsinki		
	8	Sherbrooke Invitational (Indoor) • Sherbrooke, Canada		18	"Kusocinski Memorial" • Warsaw		
	13	LA Times Invitational (Indoor) • Inglewood	19	"Rosickhenho Memorial" • Prague	July	3/5	TAC Age Group Championships • UCLA
	13	Maple Leaf Games (Indoor) • Toronto, Canada	11/12	USA/Russia • Moscow			
14	K of C Games (Indoor) • Cleveland	August	1/2	USA/Russia Pentathlon • Leningrad			
14	Invitational (Indoor) • Ottawa, Canada		TBA	World University Games • Bucharest			
16	Brooks Invitational (Indoor) • Houston		12/16	African Championships • Lagos, Nigeria			
March	20	Jack in the Box Invitational (Indoor) • San Diego	20/23	European Championships • Utrecht, Holland	September	4/6	World Cup • Rome
	19/21	NAIA Championships (Indoor) • TBA	20	"Gaston Roelants Grand Prix" • Brussels			
	21	Examiner Games (Indoor) • San Francisco					
	21	Journal Games (Indoor) • Edmonton, Canada					
	21	USA/Canada Pentathlon (Indoor) • Logan, Utah					
	21/22	European Indoor Championships • Grenoble					
	27	TAC Championships (Indoor) • New York					
	6/7	JUCO Championships (Indoor) • Champaign					
	7	Aztec Invitational • San Diego					
	13/14	AIWA Championships (Indoor) • Pocatello					

(continued on page 12)

(continued on page 12)



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TRACK AND FIELD EQUIPMENT

Distance Running

By Ronald Wallingford
from "Athletica"

PART III — THE COACH AND THE ATHLETE

This is the third and last of a series of articles on distance running by Ron Wallingford, who represented Canada internationally in the marathon many times during the sixties. Dr. Wallingford, now acting Di-

rector of the Division of Physical Education at Laurentian University, prepared the articles while he was Ontario Distance Running Coach.

The ideas presented here have been gained from

many sources, but most importantly from the author's years of practical experience as a distance runner, and also from his professional background in physiology as a professor of physical education.

What are the distance coach's major responsibilities?

Perhaps the most important thing the coach can instill in the athletes he works with is a sense of self-reliance. Athletes must sooner or later accept almost total responsibility for their own training: the coach is around to discuss and plan programs and is available in times of trouble, but day to day training is accomplished by the mature athlete without the constant surveillance of the coach.

In the meantime, in order to get the athlete to this independent state, and to the

to his charges.

One of the biggest tasks for the coach is to create in the school or club an environment where the athletes revel in severe training and maintain that attitude throughout the year.

The coach should arrange the opportunity for athletes to train with really top performers whenever possible. Athletes pick up all sorts of very helpful attitudes towards training in this way.

Coaches should never apologize for suggesting rigorous workouts.

Perhaps John Gardner in his book *Excel-*

down after a bad performance when the athlete has tried his hardest in an event.

The coach must be exceedingly careful, too, in praising athletes. He must not overpraise the undeserving while at the same time he must not underpraise the deserving. A first rate performance should be celebrated as an achievement, but also as a step towards higher goals. And once a certain goal is reached, the coach must open the doors for the next accomplishment, for without this constant challenge, stagnation is bound to set in.

Distance runners seem to respect the

JEFF JOHNSON PHOTO



highest possible level of achievement as soon as possible, the coach can play a most important catalytic role.

The coach must constantly check the reaction of the runners to their training to see that they are kept excited, enthusiastic and are making tangible progress towards their goals.

The coach should radiate confidence that the highest heights of performance are attainable by virtually anyone willing to make the sacrifices. A coach who has trouble conceiving first rate performances will inevitably communicate this stunted horizon

lence summed up the perspective the distance coach should have:

The best kept secret in America today is that people would rather work hard for something they believe in than enjoy a pampered idleness. They would rather give up their comfort for an honored objective than bask in extravagant leisure. It is a mistake to speak of dedication as a sacrifice. Every man knows that there is exhilaration in intense effort towards a meaningful end.

In spite of all the time and effort a coach puts in, the athlete still gives more of himself than does the coach in the production of a top performance. The coach has no moral right to accuse an athlete of letting him

coach who can go for a run with them on occasion. It is difficult to instill in athletes the lust for superb fitness if you completely negate your own physical fitness as a coach.

It is as important for the coach to know when to say nothing as it is to know what to say when he does comment. Often, particularly in distance running, it is wise to leave well enough alone. The coach shouldn't try to justify his existence by saying something just because he feels people expect it of him.

The coach should encourage everyone who shows an interest in distance running to start training. In spite of recent physiologi-

ical advances, it is still not possible to positively identify the one who will be an international athlete. Many who appeared awkward and only moderately talented in high school have matured in later years to be the best in the country. The number of apparently talented people who just never come to grips with the challenge of serious training is appalling.

It is better for the coach to coach the interested than to constantly seek the "ideal" athlete.

British coach Jim Alford made a comment which I feel sums up the distance coach's role when he said that "The art of distance running lies in the skillful variation of the severity of the stresses laid upon the physical and nervous resources of the athlete from day to day."

Obstacles to training

Many young people lack sufficient confidence to devote themselves completely to training after achieving a modicum of success in their local area. Many athletes would prefer to have their friends say, "I wonder what so-and-so could have achieved if only he had trained", rather than to train seriously and risk not meeting the perhaps overexaggerated expectations of the local neighborhood.

You must be willing to gamble your time and energy on your improvement. Even if you don't have marked success, you will be more physically healthy on account of it.

Athletes sometimes think that if they don't place first they are not successful. The coach should operate on the philosophy that everyone who puts on a sweat suit and trains or races is a winner. The only losers are those who remain uninvolved. Coaches should never belittle an athlete who is trying, no matter how awkward he appears. Athletics should be a celebration of involvement and not necessarily always focused on high attainment. Perfection is the goal, but on the way there must be acceptance and satisfaction from the current struggle and the current accomplishments, however small.

Many people fear that a life of athletics is one of total abstinence from alcohol, smoking and an interesting social life. It is best for the coach to interfere as little as possible with the athlete's personal life. An athlete will eventually realize that he performs more effectively with moderation in alcoholic consumption, abstinence from smoking, and moderation in the number of irregular hours he keeps. But the most effective way for the athlete to learn this is to discover it for himself. The coach with unreasonable behavioral expectations can soon scare away his athletes.

For some athletes, even international competitors, the old adage, "If you deprive them of their vice they lose their vigor", can still have some meaning. Athletics is a way of life. You don't sacrifice life for athletics,

but weave it into an interesting balanced pattern.

Athletes sometimes think they can't find the time to train. Anyone, no matter how busy or not busy, could make that statement. It would be more accurate to say that athletes have to make the time to train. If the athlete analyzes an average day, he would surely find a considerable number of low-priority items creeping into prominence which he could easily omit without disturbing his major goals.

Athletes used to a steady routine of going to classes and training often have trouble once school is over. It requires much more effort and self-discipline for the athlete to continue training when this is not part of his school responsibilities. The greatest, needless, drop-off of athletic talent takes place sometime between the time the athlete leaves school and gets organized in a job situation.

Maintaining enthusiasm

Inherent in all training programs is the necessity for the individual to learn to know himself and his limitations at every stage of his development. He must study when he gets depressed or discouraged and the factors which lead to this. Was he doing too heavy training — especially of an anaerobic (hard, fast) nature? Was he training more than he could comfortably cope with? Is he getting adequate sleep to compensate for the extra physical load he is subjecting his body to? Is he careless about eating proper meals? Is he dissipating his nervous energy in emotional conflict which prevents him from having the nervous reserves to support heavy training? Is he racing rather than cooperating with his teammates in training?

You can't be out of harmony with your environment and still have sufficient energy to train. Any or all of the above factors could impede progress by leaving the athlete discouraged and "down". The wise athlete is always alert to the reasons behind any discouragement rather than accepting it as inherent in his training. There are only so many periods of discouragement or depression before the athlete chucks the activity as not being worth the effort. Every individual must accept that he is human and does have finite limitations on his day to day capabilities, however much he wishes to convey the opposite to his racing opponents.

Much if not all of the motivation to perform well must come from an intrinsic desire to surpass oneself. This is not necessarily a desire to gain the acclaim of an audience but rather a desire to prove to oneself what one can actually accomplish through self-discipline.

One could say that the person who accepts the onus for his own training is physically educated, but the person who requires a coach at his side at all times is merely being physically trained. The objective of the distance coach should be to develop a

LETTERS

"I've been collecting autographs for the East German Rosemarie Dittmur who advertised in WTW last May. I have had a lot of success in getting many of the Olympians but there are a few who's whereabouts are unknown. I was wondering if you might be able to help find the following ones:

Kathy Hammond, Barbara Ferrell, Mildrette Netter, Margaret Bailes, Sheila Ingram, Marilyn White, Mable Fergerson, Janet Moreau, Barbara Jones, Mae Faggs, Audrey Patterson (1948), M. Matthews (1956), I. Daniels (1956) and Wilma Rudolph."

Chris Neuhoﬀ
129 E. 69th Street, 10B
New York, NY 10021

(If you know how to reach any of the above athletes, please write to Chris Neuhoﬀ at the above address.)

Enclosed is information concerning our young high jumpers who will certainly dominate this event by 1984:

Melinda Morris is a freshman at Western Illinois University, Macomb, Illinois. She will be working with Dave Miller formerly with the Peoria Pacettes. Melinda will be 18 on December 11. She has cleared 5'11 twice while winning our State championships and qualifying for the National Junior team. She is a very determined athlete, showing unusual consistency. In her summer competitions she cleared 5'11 twice, 5'10 four times and 5'9 two times.

Sue Lind is a senior at Albion High School in Albion, Nebraska. This young lady is an outstanding volleyball player as well as a track and field athlete. Already contacted by numerous schools for both sports. Sue won the Junior Nationals on fewer misses and captured the Junior Olympics with a jump of 6'0, her second of the summer. Only coached by an authority, Don Chu, at a development camp in July 1979. Another high school senior this year is Wendy Markham of Cedarburg, Wisconsin. Wendy has cleared 6'0 and is in search of a good college program anywhere in the US:

Finally the talent that might top them all, Denise Daebaelhim of Moline High School, Moline, Illinois. Denise won her State title in June at 5'8. Then she received some coaching on her approach and won the USA Junior Championships in July at 6'1½. The next week she won a competition at 6'0 indoors — moved there because of darkness. She is 5'8/5'9 tall, has great spring and is only a junior in high school.

Don Hartlaub
Western Illinois University **WTW**

mature, self-reliant athlete who has learned to dose his own training, to recognize and respect his body's reactions to the stress, and for whom athletics is an integral part of a balanced life.

WTW

Results — Results — Results — Results

Boston Still Undefeated

Boston, Massachusetts, October 4 — Boston College ran its winning streak to 10-0 for the 1980 cross country season as they scored 36 points to defeat Providence (43), Georgetown (67), St. John's (77) and Syracuse (138) over the 5000m course at Franklin Park. St. John's Mary Calderano took the number one finish spot with a time of 17:42 but Boston College picked up finishing positions 4-5-8-9-10-11 for the victory.

RESULTS: 1—Mary Calderano (SJ) 17:42, 2—Small (G) 17:53, 3—McCrerie (P) 17:59, 4—Flick (Bos) 18:03, 5—Panzarella (Bos) 18:08 . . . 16—Pia Palladino (G) 19:02 . . . 19—Sue Shea (G) 19:40.

Yerkes Wins

Philadelphia, Pennsylvania, October 4 — Jan Yerkes, a 23-year-old school teacher from Buckingham, PA, won her 17th consecutive road race when she outran a field of nearly 600 women in the first L'eggs/YWCA 10000k here. Yerkes completed the 6.2 mile course through Fairmount Park in 35 minutes and 11 seconds, a pace of 5:40 per mile in setting a personal best for the distance by more than one minute.

Carol Myers, 23, of East Berlin, PA, finished 400 yards behind her former Lockhaven State College teammate in 36:36.

Yerkes and Myers broke from the pack right from the start and moved out to a 200 yard lead after the opening mile. By the two-mile mark, with a time of 11:09, Yerkes had raced to a comfortable lead and was never challenged again.

RESULTS: 1—Jan Yerkes 35:11, 2—Carol Myers 36:36, 3—Sarah Quinn 36:56, 4—Ceal Phelan 37:51, 5—Pam Burowsky 39:31, 6—Lucy Ackerman 39:47.

Olinek L'eggs Winner

Santa Monica, California, October 11 — Gayle Olinek, a transplanted Canadian via Florida, won the Second Annual L'eggs/YWCA 10000 meter run, beating more than 500 other competitors in the good time of 35:19. Olinek, Su-Mei Lee and Patricia Story were close together at the start and remained so through the first mile, but at that point Olinek broke in front by some 50 yards. Olinek increased her lead at the two mile marks and the three remained in those positions during the remainder of the race. Olinek was the winner by 43 seconds over Lee with Story another 24 seconds back. Fourth was Miki Gorman.

RESULTS: 1—Gayle Olinek 35:19, 2—Su-Mei Lee 36:02, 3—Patricia Story 36:26, 4—Miki Gorman 37:30, 5—Elaine Campo 37:36, 6—Jaynie Studenmund 38:25.



Gayle Olinek (Canada) leads Su-Mei Lee (Taiwan) and Pat Story (U.S.) on way to winning L'eggs 10000 in Santa Monica.

Princeton Whips Two

Princeton, New Jersey, October 10 — Powerful Princeton had no trouble whipping a pair of opponents in a three-way competition. The home team defeated St. John's 16-47 and Fordham 15-50. St. John's won over Fordham 26-29. The Princeton crew placed 1-2-3-4-6-7-8-9-10-11-12-14-15-16-17-18-19 in what was practically a workout.

RESULTS: 1—Nina Zollo (P) 18:27, 2—Janice Cross (P) 19:03, 3—Kim Ginder (P) 19:03, 4—Debbie Schulte (P) 19:07, 5—Mary Calderaro (SJ) 19:20.

Ohio State Wins

Bloomington, Indiana, October 11— Ohio State trounced Purdue 31-37 as 13 teams gathered for an Invitational. Purdue, running without Diane Bussa, made it a close contest as they finished 4-6-8-9-10 to Ohio's 1-2-5-11-12 as both teams left the rest of the field far behind.

RESULTS: 1—Beth Sheridan (OSU) 17:41, 2—Mary Stoner (OSU), 3—Wendy Burman (Wis/Parkside) 18:01, 4—Jymette Bonivier (Pur) 18:03, 5—Norene Harrison (OSU) 18:10, 6—Andrea Marek (Pur) 18:13, 7—Roseann Barnhill (Ind) 18:16, 8—Sharon Cline (Pur) 18:17, 9—Janette Dowton (Pur) 18:19, 10—Becky Cotta (Pur) 18:20, 11—Janet Slejko (OSU) 18:20, 12—Mary Shuber (OSU) 18:25; Scores, 1—Ohio State 31, 2—Purdue 37, 3—Indiana 122, 4—Western Illinois 131, 5—Eastern Illinois 133, 6—Texas A&M 179, 7—Illinois 194, 8—Wisconsin/Parkside 200, 9—Purdue "B" 266, 10—Western Kentucky 266, 11—Ball State 286, 12—Miami 310, 13—Eastern Kentucky 316. Number of finishers — 91.

Virginia Wins

University Park, Pennsylvania, October 11 — University of Virginia, Penn State and Tennessee met here today in a tough cross country competition between three of the nation's top teams and Virginia came out on top with a score of 33 points to 38 for the hosts and 54 for Tennessee. Virginia's Aileen O'Connor won the race in 17:35 to lead her team's 1-4-7-10-11 scoring. Heather Carmichael was second for Penn State while Tennessee's best was Linda Portasik in fifth position.

RESULTS: 1—Aileen O'Connor (V) 17:35, 2—Heather Carmichael (PS) 17:46, 3—Mary Rawe (PS) 17:48, 4—Mary Jean Wright (V) 17:52, 5—Linda Portasik (T) 17:57, 6—Kathy Bryant (T) 17:59, 7—Jill Haworth (V) 18:02, 8—Patty Murnane (PS) 18:12, 9—Eileen Hornberger (T) 18:16, 10—Cal Hardin (V) 18:17 . . . 13—Peggy Cleary (PS) 19:00 14—Martha White (V) 19:03; Scores, 1—Virginia 33, 2—Penn State 38, 3—Tennessee 54. Number of finishers — 25.

Georgetown Easy Winner

Washington, DC, October 18 — Led by Pia Palladino, Georgetown University scored an easy 20-35 victory over William & Mary. Palladino covered the 5000 meters in 70° weather in a leisurely 18:43.

RESULTS: 1—Pia Palladino (G) 18:43, 2—Mary Small (G) 19:25, 3—Kathy Sardo (W&M) 20:22, 4—Sheila Murphy (G) 20:36, 5—Trish Flaherty (W&M) 20:38, 6—Sally Cashen (G) 20:52, 7—Chris Shea (G) 21:28.

Wisconsin Wins Tom Jones Invitational

Madison, Wisconsin, October 11 — The University of Wisconsin had no trouble winning the team title at the Sixth Annual Tom Jones Invitational — but if Wisconsin United had shown up with five runners instead of four, the battle would have been close. Cindy Bremser won the race in 17:29 with teammate Marybeth Spencer half a minute behind. WU also picked up fifth and 28th but as they did not have a full team, the University won it with 43 points. Wisconsin's Rose Thompson was the first collegian across the finish line.

RESULTS: 1—Cindy Bremser (WU) 17:29, 2—Marybeth Spencer (WU) 18:03, 3—Rose Thompson (Wis) 18:07, 4—Julie Lantis (SW Mich) 18:22, 5—Marty McElwee (WU) 18:27, 6—Nancy Gieske (S.DakSt) 18:30, 7—Laura Geason (S.DakSt) 18:31, 8—Marty Wilson (Wis) 18:35, 9—Mary Stepka (Wis) 18:36, 10—Cindy Sargent (S.DakSt) 18:37, 11—Sally Zook (Wis) 18:38, 12—Maryann Brunner (Wis) 18:41, 13—Dawn Buntman (UW/SP) 18:43, 14—Kim Southworth (SW Mich) 18:49, 15—Suzie Houston (Wis) 18:52; Scores, 1—Wisconsin 43, 2—South Dakota State 60, 3—UW/Stevens Point 121, 4—Southwest Michigan 123, 5—UW/Eau Claire 162. Number of finishers — 53.

Arizona Wins Conference Crown

Tempe, Arizona, October 18 — The University of Arizona captured its second Western Collegiate Athletic Association Cross Country championship at Arizona State's El Dorado Park course.

The Wildcats swept four of the first five places and individual championship honors with Joan Hansen clocking a course record-breaking 17:30.1, bettering the previous mark of 17:35.3 set by ASU's Sabrina Peters. Also scoring for Arizona were Anthea James (third), Marjorie Kaput (fourth), Stacy Crystal (fifth), Krista Holmes (tenth), Elisa Carney (twelfth) and Kaurie Sawyer (sixteenth). UCLA, led by All-American Linda Goen (second), was next in the scoring with 42 points. San Diego, competing without their 1-2 runners Lynn Kanuka and Monica Joyce, was third.

RESULTS: 1—Joan Hansen (Ariz) 17:30, 2—Linda Goen (UCLA) 17:35, 3—Anthea James (Ariz) 17:36, 4—Marjorie Kaput (Ariz) 17:37, 5—Stacey Crystal (Ariz) 17:37, 6—Sabrina Peters (ASU) 17:39, 7—Sheila Ralston (UCLA) 18:04, 8—Liz Baker (SD) 18:21, 9—Ann Regan (UCLA) 18:23, 10—Krista Holmes (Ariz) 18:26; Scores, 1—Arizona 23, 2—UCLA 42, 3—San Diego State 82, 4—Arizona State 101, 5—Cal State Long Beach 114, 6—Cal State Fullerton 178.

Cal Wins Sportswest Invitational

Seattle, Washington, October 18 — Three of the nations top collegiate cross country teams tangled with three other major col-

lege squads at the 1980 edition of the Sportswest Invitational and the top three produced a ding-dong battle for first. The University of California took the number one spot with 44 points as Washington tallied 46 and Oregon 47 in a close contest. Seattle Pacific outscored the Air Force Academy to win the Division II race 29-39. The course was 130 feet short of 5000 meters.

Cal, Washington and Oregon put nine of the top 10 runners across the finish line before the other three teams got into the finish order. Athletics West's Cathie Twomey was across the line first but the number one collegian was California's Jan Oehm as the Berkeley bunch placed 1-4-9-13-17 for their win. Washington was led by Regina Joyce as the Seattle based team scored 2-7-8-11-18 for their 46 points and were followed by Oregon at 3-5-10-14-15.

RESULTS: (Division I): 1—Cathy Twomey (Athletics West) 17:07, 2—Jan Oehm (Cal) 17:15, 3—Regina Joyce (Wash) 17:18, 4—Lauri Adams (Mon Miracles) 17:21, 5—Robin Baker (Ore) 17:22, 6—Alice Trumbley (Cal) 17:27, 7—Leann Warren (Ore) 17:31, 8—Connie Case (OreSt) 17:33, 9—Jennifer White (AthWest) 17:33, 10—Sandra Gregg (Wash) 17:37, 11—Karen Petley (Wash) 17:40, 12—Suzanne Richter (Cal) 17:41, 13—Eryn Forbes (Ore) 17:41, 14—Lisa Nickel (Wyo) 17:48, 15—Carol Chilcourt (Club Northwest) 17:51, 16—Sue Latter (Ore) 17:51, 17—Kim Schnurpfeil (Stan) 17:52, 18—Susan Gregg (Wash) 17:53, 19—Joanne Lahti (OreSt) 17:53, 20—Lynn Hjelte (Cal) 17:57, 21—Susie Niedermeyer (Ore) 18:00, 22—Ellen Schmidt (Ore TC) 18:00, 23—Joan Hopfenspirger (Ore) 18:03, 24—Chris Hoth (MonSt) 18:10, 25—Cheryl Flowers (Cal) 18:12, 31—Molly Morton (Ore) 18:24, 32—Irene Griffith (Ore) 18:26. Scores, 1—California 44, 2—Washington 46, 3—Oregon 47, 4—Oregon State 99, 5—Montana State 129, 6—Seattle TC 164. Number of finishers — 74. (Division II): 1—Lauri Shansby (Seattle Pacific) 17:35, 2—Rita Burr (Air Force) 17:47, 3—Rhonda Burnette (Eastern Oregon) 18:04, 4—Maryanne Scannell (CS Sacramento) 18:06, 5—Gail Volk (SP) 18:08, 6—Vicky Foltz (Everett CC) 18:18, 6—Diana Pappas (CS Sacramento) 18:29, 8—Theresa Hanrahan (AF) 18:33, 9—Gay Weaver (AF) 18:39, 10—Melissa Nelson (SP) 18:40; Scores, 1—Seattle Pacific 29, 2—Air Force Academy 39, 3—Western Washington 124, 4—Spokane CC 127, 5—Pacific Lutheran 148, 6—Linfield 151, 7—Eastern Washington 162, 8—U. Puget Sound 180. Number of finishers — 73.

Purdue Wins Big 10 Title

Columbus, Ohio, October 18 — Purdue easily won the Big 10 Cross Country title with 57 points, but the next three teams staged quite a battle for the next three spots. Wisconsin, Michigan State and Ohio State ended up in that order with 71, 73 and 79 points respectively. Rose Thompson handed Diane Bussa one of her rare defeats as she successfully defended her individual title with a speedy clocking of 17:06, six seconds in front of the Boilermaker. Purdue actually won the title with their fifth runner. After the number four runners of both teams had crossed the finish line, Purdue led by only three points, but the fifth Boilermaker finished 18th while Wisconsin's Sally Zook was 29th.

RESULTS: 1—Rose Thompson (Wis) 17:06, 2—Diana Bussa (Pur) 17:12, 3—Beth Sheridan (OSU) 17:19, 4—Kelly Spatz (MSU) 17:23, 5—Becky Cotta (Pur) 17:26, 6—Nan Doak (Iowa) 17:27, 7—Mary Claire Stoner (OSU) 17:29, 8—Melanie Weaver (Mich) 17:29, 9—Ann Pewe (MSU) 17:30, 10—Karen Campbell (MSU) 17:31, 11—Mary Stepka (Wis) 17:33, 12—Judy Parker (Iowa) 17:35, 13—Zanetta Weber (Iowa) 17:35, 14—Suzie Houston (Wis) 17:36, 15—Jymette Bonnevier (Pur) 17:37, 16—Marta Wilson (Wis) 17:41, 17—Shannon Cline (Pur) 17:42; Scores, 1—Purdue 57, 2—Wisconsin 71, 3—Michigan State 73, 4—Ohio State 79, 5—Iowa 114, 6—Michigan 142, 7—Indiana 181, 8—Minnesota 190, 9—Illinois 219, 10—Northwestern 317. Number of finishers — 67.

Cal Poly Invitational

Moro Bay, California, October 18 — Practically not even working up a sweat, Cal Poly easily annexed its own Invitational with almost a perfect score. The San Luis Obispo group took the first four places to win over the San Jose Cindergals 19-66. Then they added the clincher as their "B" team picked up third place ahead of Northridge, Riverside, Bakersfield, Irvine and CP/Pomona. Winner, of course, was Maggie Keyes who finished 59.9 seconds ahead of runner-up Liz Strangio.

RESULTS: 1—Maggie Keyes (CP/SLO) 17:46.7, 2—Liz Strangio (CP/SLO) 18:46.6, 3—Janice Kelley (CP/SLO) 19:01, 4—Amy Harper (CP/SLO) 19:04, 5—Maria King (SJC) 19:06; Scores, 1—CP/SLO 19, 2—SJ Cindergals 66, 3—CP/SLO "B" 88, 4—CS Northridge 110, 5—UC Riverside 145, 6—CS Bakersfield 153, 7—UC Irvine 163, 8—CP/Pomona 228.

Hayward Invitational

Hayward, California, October 18 — University of California and Cal State Hayward sent their reserves into the fray at the Annual Hayward Invitational and finished first and third in an 11 team competition. Individual winner was Nevada's Terry Schmidt as the Berkeley Bears won the team competition with 48 points.

RESULTS: 1—Terry Schmidt (Nevada) 19:04, 2—Bergshon (Hum) 19:11, 3—Gottschalk (Cal) 19:15, 4—Sandel (USF) 19:18, 5—Jungsten (Canada JC) 19:24; Scores, 1—California "B" 48, 2—Humboldt State 68, 3—CS Hayward "B" 80, 4—Nevada "A" 86, 5—CS Chico "A" 97, 6—Santa Clara 170, 7—U. San Francisco 198, 8—CS Hayward "C" 215, 9—Sonoma 235, 10—Nevada "B" 237, 11—CS Chico "B" 272. Number of finishers — 93.

Bremser Wins

Kenosha, Wisconsin, November 8 — Cindy Bremser scored a 62 second win over teammate Amy Johns as Wisconsin United dominated the Mideast Cross Country Championships on the Wisconsin/Parkside

(continued on page 12)



FRANCIE SMITH

Dallas, Texas, September 27 — Olympic runner Francie Larrieu outpaced a field of 1,044 women to win the third annual L'eggs/YWCA 10000 meter women's run.

Larrieu, a member of the 1976 Olympic team and former holder of the world record for the indoor mile, ran the 6.2-mile course along White Rock Lake in 34 minutes, 51 seconds. Her time was the fastest ever in the four-year-old nationwide series of women's races sponsored by the YWCA and L'eggs products.

Martha Sartian, 23, of Irving, placed second, 28 seconds behind Larrieu. Vanessa Vadjos, 23, of Houston, took third in 35:29.

The three runners stayed together for the first few miles, clocking a first-mile time of 5:38. At the four-mile mark, Larrieu picked up her pace and pulled ahead of Sartian and Vadjos.

Two other pre-race favorites, Plano's Cindy Tolle, 15, and Houston's Toni Bernhard, 33, finished fourth and fifth respectively. Bernhard, who won the race last year, ran with the leaders for the first two miles but fell behind midway through the race.

Larrieu, who was married last month, entered the race under her married name of Smith, so officials did not realize the former Olympian had entered.

Larrieu was unable to equal her best 10000 meter time of 33:16, set in April, 1979. But her win here qualified her for a trip to New York next May to compete in the L'eggs Mini Marathon. There she would likely be running against Norway's Grete Waitz, who set the world record for 10000 meters of 30:59.8 at the Mini last spring. It would be the first competition between them at that distance.

Runners from nine states and 40 cities throughout Texas braved the intermittent drizzle to run. The youngest finisher was seven-year-old Laura Denton, of Garland, who finished in an hour and 25 minutes.

RESULTS: 1—Francie Larrieu Smith 34:51, 2—Martha Sartian 35:19, 3—Vanessa Vadjos 35:29, 4—Cindy Tolle 36:34, 5—Toni Bernhard 36:49, 6—Tena Harms 37:16.

DALLAS — Francie Larrieu, 1976 Olympian and former holder of the world record for the indoor mile, won the third annual L'eggs/YWCA 10000 meter run in Dallas, Sept. 27. Larrieu's time of 34 minutes, 51 seconds was the fastest ever on the four-year-old nationwide running series for women only.

WTW

WINNING BY LOSING

Sports medicine physicians declare that athletes would not only perform more efficiently by reducing their body fat, but they would be much less susceptible to injuries on the field. A low percentage of fat would also reduce their liability to such diseases as diabetes, gout, degenerative arthritis, gall-bladder problems, heart trouble, and some forms of cancer.

The Cincinnati Bengals football team was evaluated for body fat in May of 1979. Of 70 men attending that football camp 50 percent were over fat.

The Bengals are not unique among football teams. The majority of football players in this country are over fat. Nor are the football players the only ones. American athletes in general are too fat.

With the exception of two sports, marathon swimming and Sumo wrestling, fat is detrimental to athletic performance. Not only does fat mean the athlete has to lug around excess poundage, but the fat entwines itself around muscle fibers and slows down the muscles' ability to contract. Most athletes, therefore, can improve their performance in sports by getting as lean as possible. They can improve their potential for winning by losing — losing that superfluous fat.

The latest medical findings are ample evidence of the value of a lean body for improving performance in sports and reducing injuries.

The Function of Body Fat

The primary function of body fat is the long term storage of fuel. The use of fat for fuel did not originate with man. Almost from the beginning of life on earth, fat has had a biological role to play as fuel storage for moving organisms. Larval forms of certain insects may carry 90 percent of their weight in lipid form. Locusts and monarch butterflies prepare for long-distance migrations by pre-flight feeding and fat depositing that can last several days. Before migrating, birds may fatten themselves by 25 percent in a week. Several species of fish, notably salmon and sharks, are recognized for their lipid reserves which provide energy for their long-distance swims.

Human fat is distributed all over the body. But in spreading out under the skin fat seems to take on new uses and begins to serve functions which may not have been intended in the evolutionary process. With a girdle of fat under the skin and around parts of the viscera, insulation and even heat production may be added to fat's primary use as a storage depot.

Unattractive Fat

In the last 40 years, it has become popular among physicians, insurance underwriters, psycho-therapists, and fashion de-

signers to attack obesity as the common enemy. Over the years, campaigns mustered in this cause have raised legions of specialists and specialties. The diet industry in the United States in 1977 was estimated to have grossed over a billion dollars.

The bountiful supply of food in this country makes the ability of the body to store fat no longer a life-saving necessity. If anything, actuarial tables suggest that it may be just the opposite.

The insurance studies that ushered in a new world of body images for Americans were first published in 1912. As an indirect result, we are now taught that being overfat increases our chances of dying of heart disease, diabetes, and nephritis. Recently, asthma and homicide have been added to the list. There has been also the extra burden of psychological guilt by the fashion and sports-fitness industry. No one wants to take a fat girl out to dinner, do business with a butterball executive, or play tennis with an obese partner.

The most recent figures published by the insurance companies suggested that almost 50 percent of the adult female population in the United States is seriously overweight. Figures for adult males run them a close second. If an obesity rate of 50 percent seems high, Americans can take some comfort from the recent data released by the Baden-Wurttemberg State Medical Association which estimate the German obesity rate for both sexes at close to 70 percent.

There is evidence in the statistics of every life insurance company that overweight is harmful to the health. A study made by insurance companies of men over 45 revealed that men 15 to 50 percent underweight were 50 percent less likely to develop cancer than men 25 percent overweight. Overweight results in high blood pressure, arterial disease, liver and kidney dysfunction, varicose veins, chronic fatigue, and heart trouble.

Evaluation of Body Fat

Seen under a microscope, fat tissue looks like a bubble bath. The globules are grouped together with stringy intercellular glue and streaked with narrow filaments of connective tissue, blood vessels, and nerves. This network of fat cells provides a living inner tube, inflatable or deflatable, with minimum stress to the skin and the viscera.

Several methods have been used to measure body fat: x-rays, specific gravity, potassium 40, and skin-fold thickness.

The easiest and most popular method is by measuring skinfold thickness. The thickness of a fold of skin in various areas of the body is measured with skinfold calipers. Such thickness data can be translated into percentage of body fat. Although these data

are not perfect or totally precise, they do give a better indication of the amount of body fat than mere body weight and height comparisons.

The amount of body fat varies with age and sex. It is greatest in infancy, diminishes in childhood, and increases again during adolescence. Research indicates that girls and women normally have more body fat than do boys and men. An abnormally great or small amount of fat is related to good or poor nutritional status, especially when compared with body weight.

An athlete can obtain a fair estimate of his or her body fat by the accompanying "pinch test".

Directions

1. Have a friend do the pinching and measuring. An individual cannot measure his own skinfold.
2. Let the right arm hang down to the side.
3. Locate the skinfold site on the back of the upper arm midway between the shoulder and elbow.
4. Grasp a vertical fold of skin between the thumb and first finger. Pull the skin and fat away from the arm. Make sure the fold does not include any muscle. Practice pinching and pulling the skin until there is no muscle included.
5. Measure with a ruler the thickness of the skinfold to the nearest 1/16 inch. Be sure to measure the distance between the thumb and finger. Sometimes the top of the top of the skinfold is thicker than the distance between the thumb and finger. To avoid this make sure the top of the skinfold is level with the top of the thumb. Do not press the ruler against the skinfold. This will flatten it out and make it appear thicker than it really is.
6. Take two separate measures of the skinfold thickness, releasing the skin between each measure, to determine the average thickness.
7. Calculate the average skinfold thickness by using the following chart to estimate percentage of body fat.

Percent of Fat: MEN

Skinfold

Thickness (in.)	%-age
1/4"	5-9%
1/2"	9-13%
3/4"	13-18%
1"	18-22%
1 1/4"	22-27%

Percent of Fat: WOMEN

Skinfold

Thickness (in.)	%-age
1/4"	8-13%
1/2"	13-18%
3/4"	18-23%
1"	23-28%
1 1/4"	28-33%

CALENDAR (continued from page 5)

1982

February

26 TAC Championships (Indoor) • New York

March

21 IAAF World Cross Country Championships • Warsaw

June

17/19 TAC Championships • TBA
26/27 USA-USSR-GFR-Africa • USA

July

3/4 USA-USSR-GFR-Africa • USA
10/11 USA-DDR-GFR • London or Leipzig
TBA Pan American Jr. Championships • Caracas, Venezuela

September

7/12 European Championships • Athens

October

3/9 Commonwealth Games • Brisbane, Australia

1983

February

25 TAC Championships (Indoor) • New York

June

16/18 TAC Championships • TBA
26/July 7 World Student Games • Edmonton, Canada
TBA USA-GFR-USSR • USSR or GFR

July

TBA USA-GFR-DDR • GFR or DDR

August

7/14 IAAF World Championships • Helsinki
TBA Pan American Games • Venezuela

1984

July 28 - August 12

Summer Olympic Games • Los Angeles

WTW



Here's a goal for you. Mavis Lindgren recently ran a Marathon in 4:56:54 — at age 72.

WTW

RESULTS — RESULTS — RESULTS (continued from page 9)

course. Bremser finished the 5000 meters in 17:11.8 as 28 runners completed the course.

RESULTS: 1—Cindy Bremser (Wisconsin United) 17:11.8, 2—Amy Johns (WU) 18:14, 3—Marybeth Spencer (WU) 18:16, 4—Kellie Benzow (Parkside) 18:27, 5—Mary Kielke (Minn) 18:44; Scores, 1—Wisconsin United 21, 2—Wisconsin/Parkside 36.

Texas Remains

Austin, Texas, October 18 — The powerful University of Texas kept its 1980 unbeaten string alive when they scored a big win in their University of Texas Relay Meet. Five races were run with the winning team being the one with the least "total time" of the five runners added together. First two races (legs) were one mile jaunts, third leg was 1½-miles, fourth leg a half mile and the final race covered two miles. The Texas runners won three of the races and were second in the other two for a combined total of 33:12 to 33:49 for runner-up Houston.

RESULTS: **Race 1** (1 mile), 1—Hope Fullwood (Abilene Christian) 5:24, 2—Kelly Wells (Tx) 5:41, 3—Christy Garcia (Tx "B") 5:45; **Race 2** (1 mile), 1—Maryanne Pils (Tx) 5:22, 2—Disa Lewis (Rice) 5:30, 3—Tina Lopez (AC) 5:31; **Race 3** (1½ miles), 1—Terri Ebanks (Tx) 7:59, 2—Val Gingrich (Houston) 8:10, 3—Maria Espinoza (AC) 8:24; **Race 4** (880 yards), 1—Lori Nelson (Tx) 2:30, 2—Lisa Jo Garner (ACU) 2:34, 3—Heidi Hansen (Tx "B") 2:35; **Race 5** (2 miles), 1—

Kirsten Hagenlocker (Houston) 11:28, 2—Jayne Sweigart (Tx) 11:40, 3—Lourie Taylor (ACU) 12:00; Scores, 1—Texas 33:12, 2—Houston 33:49, 3—Abilene Christian 33:53, 4—Rice 34:39, 5—Texas "B" 35:07, 6—Angelo State 36:35, 7—Abilene Christian "B" 36:59, 8—Angelo State "B" 38:42, 9—Texas Lutheran 42:25.

Princeton Wins Ivy League

New York, New York, October 24 — Darlene Beckford of Harvard University won the Ivy League Cross Country Championship covering the newly-renovated 5000m course in Van Courtlandt Park, the Barnard College home course, in 17:29.9. Leading from the half-mile point, the 19-year-old sophomore from Cambridge finished 30 yards in front of Sarah Strauss of Yale.

In last year's Ivy League contest, Beckford, who holds the indoor intercollegiate mile record of 4:32.3, took second to Princeton's Lynn Jennings. Despite Jennings' absence this year, Princeton narrowly edged Harvard 62-63, claiming the Ivy League title for the third consecutive year. Leading the Princeton squad was captain Nina Zollo with a 17:59 clocking for fifth place.

Co-sponsored by Lily of France, the spon-

sors won the hearts of the runners by presenting t-shirts and chicken lunches to the competitors.

RESULTS: 1—Darlene Beckford (Har) 17:20.9, 2—Sarah Strauss (Yale) 17:36, 3—Kristin Linsley (Har) 17:49, 4—Ellen O'Malley (Brown) 17:58, 5—Nina Zollo (P) 17:59, 6—Carolyn Booth (Brown) 18:03, 7—Annie Miller (Cornell) 18:13, 8—Sara McIntire (Dart) 18:15, 9—Ellen Gallagher (Har) 18:18, 10—Chrisandra Simmons (Dart) 18:27; Scores, 1—Princeton (5-11-13-16-17) 62, 2—Harvard (1-3-9-18-32) 63, 3—Dartmouth 74, 4—Cornell 95, 5—Brown 114, 6—Yale 145, 7—Pennsylvania 148, 8—Barnard 247. Number of finishers — 85.

Cal Wins Norcal

Stanford, California, October 25 — Scoring 2-3-5-6-8, the California Bears won the NorCal Championships over a stubborn Stanford team by a score of 24-39. The other two teams, Santa Clara and University of San Francisco, were far back with 84 and 100 points respectively. Stanford was led by their two star performers, Ellen Lyons and Kim Schnurpfel who placed first and fourth, but the depth of California was too much for the home team to overcome. Lyons winning time was 17:04.2.

RESULTS: 1—Ellen Lyons (S) 17:04.2, 2—Jan Oehm (Cal) 17:15, 3—Alice Trumbley (Cal) 17:27, 4—Kim Schnurpfel (ST) 17:31, 5—Lynne Hjelte (Cal)

RESULTS — RESULTS — RESULTS (continued)

17:54, 6—Suzanne Richter (Cal) 18:04, 7—Diane Gong (S) 18:13.8, 8—Cheryl Flowers (Cal) 18:30, 9—Lisa Sandel (USF) 18:45, 10—Eugenia Zorich (Cal) 18:45; **Scores**, 1—California 24, 2—Stanford 39, 3—Santa Clara 84, 4—U. San Francisco 100.

Purdue Easy Winner

Madison, Wisconsin, November 1 — University of Wisconsin/Madison, lost the AIAW Region Five cross country title for the first time in history as Purdue University picked up an easy win while Wisconsin was struggling and finished fourth thus failing to qualify for the National Championships for the first time. Wisconsin's Rose Thompson was the individual winner breaking the course record of 17:29 set earlier this year by Cindy Bremser. Thompson's time was 17:06. The first six finishers broke the old course record.

Purdue was led by Shannon Cline and Diane Bussa who placed second and third. Purdue placed all five of their runners in the first 15 and ended up with a score of 43. Michigan State tallied 71 while surprising Ohio State had 84 to 87 for Wisconsin. Interesting was the fact that only 26 seconds separated the first 10 finishers. Thirty-five schools took part in the three divisions. Marquette annexed Division II and Wisconsin/La Crosse had a walk-away win in Division III as they scored in positions 3-5-6-7-8 for 29 points.

RESULTS: Division I, 1—Rose Thompson (Wis) 17:06, 2—Shannon Cline (Pur) 17:19, 3—Diane Bussa (Pur) 17:21, 4—Beth Sheridan (OSU) 17:25, 5—Mary Stener (OSU) 17:27, 6—Melodie Weaver (Mich) 17:27, 7—Ann Pewe (MSU) 17:30, 8—Karen Campbell (MSU) 17:30, 9—Kelly Spatz (MSU) 17:31, 10—Mary Stepka (Wis) 17:32, 11—Jynette Bonnivier (Pur) 17:34, 12—Becky Cotte (Pur) 17:40, 13—Norene Harrison (OSU) 17:45, 14—Betsy Ryan (Bowling Green) 17:49, 15—Andrea Marek (Pur) 17:50, 16—Suzanne Frederick (Mich) 17:53, 17—Suzie Houston (Wis) 17:55; **Scores**, 1—Purdue 43, 2—Michigan State 71, 3—Ohio State 84, 4—Wisconsin 87, 5—Michigan 152, 6—Bowling Green 179, 7—Western Illinois 230, 8—Eastern Michigan 243, 9—Indiana State 246, 10—Illinois 257, 11—Central Michigan 279, 12—Southern Illinois/Carbondale 329, 13—Western Michigan 340, 14—Illinois State 363, 15—Ball State 452, 16—Northern Illinois 470, 17—Northwestern 472. Number of finishers — 122.

Division II, 1—Cheryl Konkol (UW/Milwaukee) 17:44, 2—Barb Hoch (UW/Milwaukee) 18:15, 3—Tracy Skorseth (Mar) 18:16, 4—Gina Sperry (E.Illinois) 18:22, 5—Dawn Campbell (E.Illinois) 18:27, 6—Lynn Hindman (Mar) 18:37, 7—Anne Moffett (Mar) 18:48, 8—Darlene Swank (E.Illinois) 18:49, 9—Diane Hled (Mar) 18:50, 10—Theresa Bender (Mar) 18:51; **Scores**, 1—Marquette 35, 2—Eastern Illinois 41, 3—UW/Milwaukee 73, 4—Ferris State 107, 5—Loyola 121. Number of finishers — 40.

Division III, 1—Sandy Cryer (UW/River Falls) 18:18, 2—Dawn Buntman (UW/Stevens Point) 18:22, 3—Jenny Wendt (UW/La Crosse) 18:32, 4—Amy Taylor (UW/Eau Claire) 18:33, 5—Lois Trisler (Anderson College) 18:35, 6—Linda Miland (UW/La Crosse) 18:38, 7—Tori Neubauer (UW/La Crosse)

18:39, 8—Deb Booth (UW/La Crosse) 18:42, 9—Andy Baner (UW/La Crosse) 18:43, 10—Jenny Arneson (UW/Eau Claire) 18:56; **Scores**, 1—UW/La Crosse 29, 2—UW/Stevens Point 62, 3—UW/Eau Claire 108, 4—Miami University 129, 5—Augustana 168, 6—Ohio Wesleyan 200, 7—UW/River Falls 208, 8—Kenyon College 240, 9—Beloit 242, 10—Spring Arbor 279, 11—Hope College 279, 12—Baldwin-Wallace 338, 13—Wooster 381. Number of finishers — 68.

Keys and Arizona

Long Beach, California, November 1 — Fourteen schools competed in Division I Western Regional AIAW Cross Country Championships and six of them were serious contenders for the four qualifying positions and the AIAW National Championships. Individually, there were many fine runners going after the 5000m win including Arizona's Joan Hansen, UCLA's Linda Goen, Sabrina Peters of Arizona State, Kim Schnurpfel and Ellen Lyons of Stanford, Liz Baker of San Diego (along with teammates Monten Joyce and Lynn Kanuka who were making their 1980 debuts) and the California top entries Jan Oehm, Lynn Hjelte, Alice Trumbley and Suzanne Richter.

Keyes led at the half-way mark with Lyons and Schnurpfel five yards back. A gap of about 50 yards separated third from fourth when a pack of the top runners all appeared together. The final half of the course took its toll of Schnurpfel and she wound up 28th. Hansen and Goen moved over the final fourth of the course and they finished 2-3 as the first five were under 17 minutes and Sabrina Peters, in spite of running 17 minutes flat, could do no better than 6th. Keyes winning time was 16:37.

As it turned out, Arizona won rather easily with 47 points, but it was rather close for the next five places. UCLA grabbed second with 77 points to 79 for Cal Poly/SLO and 86 for California. Both Joyce and Kanuka of San Diego State, were not yet ready to run and they missed the trip to Washington in fifth position.

Only seven teams entered the Division II competition. Beth Milewski of CS Northridge won the race but UC Santa Barbara had the next three finishers and Santa Barbara took the team title over Northridge by a score of 35-38. Milewski's time was 17:29.

Fifteen teams showed up for the Division III title, but CS Hayward and CS Sacramento, who have been battling each other closely all season, finished 1-2 as the Hayward crew put everything together and scored 34 points to 60 by the Capitol-based crew and an easy win. Individual winner was surprising Terese Kozlowski from Loyola/Marymount in a fine time of 17:18.

RESULTS: Division I, 1—Maggie Keyes (CP SLO) 16:37, 2—Joan Hansen (Ariz) 16:46, 3—Linda Goen (UCLA) 16:49, 4—Sheila Ralston (UCLA) 16:57, 5—Ellen Lyons (Stan) 16:59, 6—Sabrina Peters (ASU), 7—Jan Oehm (Cal) 17:11, 8—Anthea James (Ariz) 17:13, 9—Marjorie Kaput (Ariz) 17:22, 10—Stacy Crystal (Ariz) 17:26, 11—Alice Trumbley (Cal) 17:27, 12—Heidi Perham (UCLA) 17:30, 13—Liz Baker (SDS)

17:31, 14—Eileen Kramer (CP SLO) 17:34, 15—Lynne Hjelte (Cal) 17:38, 16—Monica Joyce (SDS) 17:41, 17—Lynn Kanuka (SDS) 17:54, 18—Patti Sue Plummer (Stan) 17:59, 19—Suzanne Richter (Cal) 18:00, 20—Kim Schnurpfel (Stan) 18:22, 21—Cheryl Flowers (Cal) 18:24, 22—Ann Regan (UCLA) 18:43, 23—Cindy Schmandt (Cal) 19:46, 24—Sandy Beach (ASU) 19:49; **Scores**, 1—Arizona 47, 2—UCLA 77, 3—Cal Poly SLO 79, 4—California 86, 5—San Diego State 105, 6—Stanford 119, 7—Arizona State 187, 8—CS Long Beach 245, 9—Hawaii 275, 10—UNLV 278, 11—UC Irvine 316, 12—CS Fullerton 329. Number of finishers — 92.

DIVISION II, 1—Beth Milewski (CSN) 17:29, 2—Melissa Martell (UCSB) 18:21, 3—Kathy Kinane (UCSB) 18:22, 4—Diana Karg (UCSB) 18:22, 5—Laurie Hagopian (CS Bakersfield) 18:39, 6—Chris Trotter (CSN) 18:40, 7—Terry Schmidt (UN Reno) 18:46, 8—Diana Deegan (CSN) 18:55, 9—Beth Weber (CSN) 18:56, 10—Carol Keller (CSN) 19:01, 11—Nan Hicks (UCSB) 19:08, 12—Kathy Langdoe (CSB) 19:15, 13—Julie Thrupp (UCSB) 19:31, 14—Tracy Schofield (CSB) 19:41; **Scores**, 1—UC Santa Barbara 35, 2—CS Northridge 38, 3—CS Bakersfield 78, 4—University of Nevada Reno 90, 5—UC Riverside 104, 6—CS Los Angeles 176, 7—Cal Poly Pomona 183. Number of finishers — 49.

DIVISION III, 1—Teresa Kozlowski (Loyola Marymount) 17:18, 2—Michele Aubuchon (CSH) 17:28, 3—Stefani Stoutt (CSH) 17:42, 4—Mary Ann Scannell (CBS) 17:46, 5—Mary Tracey (Claremont Mudd Scripps) 17:54, 6—Cathy Fulkerson (Cal Lutheran) 17:56, 7—Cathy Castro (CSH) 17:57, 8—Diana Pappas (CSS) 18:03, 9—Karey Robinson (CSH) 18:08, 10—Claudia Bergsohn (Humboldt State) 18:12, 11—Wendy Walker (Occidental) 18:28, 12—Carol Hannigan (CSS) 18:31, 13—Connie Hester (CSH) 18:42, 14—Colleen Moran (CSH) 18:46, 15—Josie Candela (Whittier) 18:47; **Scores**, 1—CS Hayward 34, 2—CS Sacramento 60, 3—Humboldt State 101, 4—Occidental 125, 5—Loyola Marymount 149, 6—Claremont Mudd Scripps 166, 7—Point Loma 175, 8—Whittier 213, 9—Cal Lutheran 217, 10—Sonoma State 221; Did not score — CS Chico, Pomona Pitzer, UC San Diego, Redlands and UC Davis. Number of finishers — 83.

Texas Wins Title

Georgetown, Texas, October 25 — The University of Texas, placing six runners in the top 11 finishers, easily captured the Texas State collegiate title over six other teams with a low score of 28 points. Lamar's swift Swede, Midde Hamrin, was the individual winner in 17:01.9. The Texas crew remained undefeated with this victory and while they do not have any single outstanding performer, they continue to run as a group and only 64 seconds separated their leader, second-placer Terri Ebanks, from their number six runner. Winner Hamrin, a sophomore, has now won two straight Texas titles.

RESULTS: 1—Midde Hamrin (Lamar) 17:01.9, 2—Terri Ebanks (Tx) 17:21, 3—Kischen Hagenlocker (Houston) 17:40, 4—Lori Nelson (Tx) 17:42, 5—Jayne Sweigart (Tx) 17:55, 6—Valorie (Horan) Gingrich (Houston) 18:03, 7—Kelly Wells (Tx) 18:10, 8—Marilee Matheny (Tx A&M) 18:18, 9—Anne Kennedy (Lamar) 18:20, 10—Maryanne Pils (Tx) 18:22, 11—Christy Garcia (Tx) 18:25; **Scores**, 1—Texas 28, 2—Lamar 66, 3—A&M 72, 4—Houston 88, 5—Texas Tech 149, 6—Texas Women's 155, 7—West Texas State 179. Number of finishers — 45.

Hayward 1-2-3-4-5

Chico, California, October 25 — Cal State Hayward, defending AIAW Division III National Cross Country champions, achieved a rare result when they occupied the first five

RESULTS — RESULTS — RESULTS (continued)

positions at their Conference Championships. Only 25 seconds separated Hayward's first place winner Stefani Stout from fifth placer Karey Robinson. Cal State Sacramento, who defeated Hayward earlier this year, was second with 46 points to Hayward's perfect 15. Stout's time for the 5000 meters was 17:49.

RESULTS: 1—Stefani Stout (CSH) 17:49, 2—Michelle Aubuchon (CSH) 18:00, 3—Frannie Castro (CSH) 18:12, 4—Connie Hester (CSH) 18:13, 5—Karey Robinson (CSH) 18:14, 6—Scannell (CSS) 18:24, 7—Hannigan (CSS) 18:24, 8—Bergsohn (Humboldt) 18:35, 9—Pappas (CSS) 18:38, 10—Tracey (CSS) 18:49; Scores, 1—Cal State Hayward 15, 2—Cal State Sacramento 46, 3—Humboldt State 85, 4—UC Davis 90, 5—Cal State Chico 131, 6—CS Sonoma 196, 7—San Francisco State 198.

Oregon Wins

Missoula, Montana, November 1 — Reversing an earlier defeat at the hands of the University of Washington, Oregon easily trounced the Huskies 28-48 to annex the AIAW Region 9 title for its fifth consecutive Region victory. Washington's Regina Joyce, the British freshman and national defending champion, won the race in 17:30, but Oregon slipped in three runners before the next Washingtonian showed up. Only the top two teams from this Region advance to the Nationals at Washington.

RESULTS: 1—Regina Joyce (W) 17:30, 2—Eryn Forbes (Ore) 17:53, 3—Robin Baker (Ore) 17:53, 4—Connie Case (OreSt) 17:59, 5—Leann Warren (Ore) 18:05, 6—Joanne Lahti (OreSt), 7—Sandra Gregg (W) 18:11, 8—Susie Niedermeyer (Ore) 18:13, 9—Chris Hoth (MontSt) 18:13, 10—Joan Hopfenspirger (Ore) 18:17, 11—Molly Morton (Ore) 18:48, 12—Irene Griffith (Ore) 19:01; Scores, 1—Oregon 28, 2—Washington 48, 3—Oregon State 85, 4—Montana State 97, 5—Montana 129, 6—Washington State 166.

Marathon Record to Waitz

New York, New York, October 26 — It was, by any standards, the biggest marathon race ever held — and, in all probability, the best, too. The 1980 edition of the New York City Marathon threw up some mind-blowing statistics: there were 16005 entries drawn from 41 countries (13540 men and 2465 women) of whom 14012 started and 12548 finished. A total of 1351 athletes completed the journey inside three hours, while four hours was broken by 8637 runners. The cold weather prevented a repetition of last year's figure of an estimated 2½ million spectators, but even so along the route there was a remarkable turnout of spectators over the course passing through all five boroughs of the city. And the event was televised over the entire course!

For days before the race New York was in the grip of marathon fever. Practically everyone in the city, it seemed, knew someone who was running and therefore took personal interest and such was the

media coverage that one formed the impression that to New Yorkers the Carter vs. Reagan contest was of far less concern than was Grete Waitz ready to break the world record again!

As it turned out the Norwegian marvel reduced her best time to a stunning 2:25:42 in placing 74th overall. She has run three marathons in her life, all in New York, and each time she has smashed the world record — 2:32:30, 2:27:33, 2:25:42! Her latest exploit leaves her nearly four minutes ahead of the next fastest woman marathoner of all time, Patty Catalano (nee Lyons) who registered 2:29:34 three-quarters of a mile behind Grete. It's a staggering thought that Grete's time would have won every Olympic marathon up to and including 1948 and been good for a silver medal behind Alain Mimoun (2:25:00) as recently as 1956.

Grete (27) who had missed the inaugural world 3000m championship in August as she wasn't fully recovered from injury, had shown signs in the last month that she was rounding into top form but tried to playdown expectations that another world record was there for the taking. "I just race to win, not to set records", she said before the race. "Records are a challenge for other runners. They can take a record away from you, but they can't take a victory away from you". Asked whom she considered her main rival, Grete named Patty Catalano, winner of the Montreal marathon the previous month in 2:30:58. "I'm concerned about her. I beat her three weeks ago in a race in Scandinavia (Grete finished nearly 5½ minutes ahead of her in 16km cross country), but she is better in the marathon. There are no tactics to beat her. I just have to go out there and run".

And how she ran! It was a little too chilly for comfort with the temperature in the low forties but with a tailwind for 20 miles, an essentially flat course and vast, encouraging crowds, conditions were favorable for fast running. Grete covered the first five miles in 27:20 and the second in 27:33 to reach the 10M mark in 54:53 with a 32 second lead over fellow Norwegian Ingrid Christensen, winner of the Stockholm marathon in August in 2:38:45. By halfway (1:12:37) it was clear that Grete was well inside world schedule, and that both Ingrid Christensen (1:13:36) and Patty Catalano (1:13:50) were heading for great times also if they could keep up the blistering pace. Following these three were Carol Gould (GB) 1:15:13, Norwegian Oddrun Mosling (1:15:50), Canada's Gayle Olinek at 1:16:13, Laurie Binder (USA) 1:17:46, Gillian Adams (GB) and a fourth Norwegian Sissel Grottenberg together in 1:18:20.

Catalano, the US record holder, had moved into second place by 14M and the positions at 17M were: 1—Waitz 1:34:10, 2—Catalano 1:35:29, 3—Christensen 1:36:23. It was during the next three miles that Patty (27), whose husband/coach Joe

Catalano is himself a 2:28:58 marathoner, pulled out all the stops in an attempt to narrow the deficit. She travelled that segment in 16:31 as against Grete's 17:13, so that at 20 miles, Grete was just 37 seconds ahead of Patty (1:52:00), with Ingrid showing 1:55:09, Carol Gould 1:56:31, Oddrun Mosling 1:58:40, Olinek 1:59:20, Binder 1:59:30 and Adams 2:00:26.

But Grete was in no danger. The American's challenge petered out as the runners turned into the wind over the difficult last six miles. Grete, who runs no farther than 10000 meters at a time in training, proved much too strong for her rival and by 23M (2:08:20) was over 2½ minutes clear as she took 16:57 for those three miles and Patty took exactly two minutes longer. By the finish in Central Park the margin had grown to nearly four minutes but Patty's reward for a splendid run was the distinction to become the second woman in history to crack 2½ hours. There were personal bests galore. Ingrid Christensen (24) improved some four minutes to 2:34:23 in third place; Carol Gould (36) delighted herself by taking fourth in 2:35:06; and Gillian Adams who improved by over half a minute to 2:37:56 in moving from eighth to fifth in the last four miles. Leslie Wilson (GB), after her recent ultra-distance exploits set a lifetime best of 2:45:40 in what was at least her thirteenth marathon of the year.

"It only LOOKED easy", remarked Grete after the race. "I was suffering. I felt a cramp coming in my left thigh with six miles to go and I just said 'now forget about the time, just be first woman'. At 23 miles I saw the time of 2:08:20 and I knew I had a chance to break the record". Although finishing strongly she said she felt very tired at the end. "I know one of these a year is enough", adding, "I hope to be back for the marathon next year. The people cheering here are fantastic and I feel like New York is my second home". Delighted at breaking the 2:30 barrier Patty — who ran the first 16 miles with her husband — said: "I never saw Grete after 10 miles, but I kept hearing about her from the crowd. I felt good but I couldn't get my legs to go any faster. I have to work on my speed".

RESULTS: 1—Grete Waitz (Norway) 2:25:42, World record, 2—Patty Catalano (USA) 2:29:34, American record, 3—Ingrid Christensen (Norway) 2:34:25, 4—Carol Gould (Great Britain) 2:35:06, 5—Gillian Adams (Great Britain) 2:37:56, 6—Laurie Binder (USA) 2:38:10, 7—Kiki Sweigart (USA) 2:40:35, 8—Oddrun Mosling (Norway) 2:41:01, 9—Gayle Olinek (Canada) 2:41:33, 10—J. Chodnicki (USA) 2:43:34, 11—Sonja Laxton (RSA) 2:43:39, 12—Arenz (USA) 2:44:16, 13—Burge (USA) 2:44:48, 14—Leslie Watson (GB) 2:45:40, 15—Carol Cook (USA) 2:46:10, 16—K. Erickson (USA) 2:47:24, 17—Horton (USA) 2:48:09, 18—S. Grottenberg (Nor) 2:48:29, 19—Martinez (Spain) 2:49:02, 20—Israel (USA) 2:50:36, 21—J. Kerr (USA) 2:51:30, 22—V. Forster (Switzerland) 2:51:30, 23—Heiskanen (Finland) 2:52:14, 24—K. McDonald (USA) 2:53:40, 25—Ann King (GB) 2:54:01.

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HOW ABOUT TRYING A SIZE LARGER?

PHOTOS BY JEFF JOHNSON



Cholesterol, Diet and Running

by Dr. Norbert Sander, M.D.
from "The Nor'wester"

Recently the National Food and Nutrition Board took the position that consuming unrestricted amounts of bacon and eggs, milk and cheese, and other high-cholesterol foods has no connection with cardiac risk.

The announcement took the medical profession by surprise. Much of the recent confusion about the effects of cholesterol consumption has stemmed from misguided interpretation of the facts more than from insufficient scientific interest. Wide liberty with the facts has also been the hallmark of many self-styled nutritionists — the sophisticated quackery surrounding most vitamin therapy programs is an example. And it was particularly ill-advised for a nationally recognized organization to take so misleading a stand.

Efforts to encourage Americans to limit dietary fat have slowly begun to show results in the reduction of cardiac disease. Yet confusion continues to surround the cholesterol

issue. This confusion is a symptom of weak national leadership in preventive health as much as a need for scientific research.

What Is Cholesterol?

Cholesterol is a circulating lipid, or fat, in our bloodstream. It produces bile acids for absorption of food in the intestines and is a basic building block for important chemical substances and hormones.

There are two types of lipid: low density (LDL) and high density (HDL).

LDL, the principal carrier of cholesterol in our blood, is directly related to cardiovascular risk. Diets high in total cholesterol and saturated fats increase LDL levels in the blood, which leads to the fat buildup that blocks the heart vessels, causing coronary artery disease. Angina or, worse yet, heart attacks result from this blockage.

HDL, on the other hand, works to keep coronary artery walls clean of debris and fat buildup, thus protecting against coronary artery diseases as well as against athero-

sclerosis in other vessels of the body.

Males tend to have less HDL and more LDL than females. This is probably because the male hormone testosterone lowers HDL and the female hormone estrogen increases it. This sex difference partially explains the lower incidence of coronary artery disease in females.

Besides dietary cholesterol, weight gain in general increases LDL levels. Cigarette smoking, on the other hand, contributes to low HDL, as seen in the Framingham Heart Study.

How Running Helps

Long-distance running increases HDL levels, generally in proportion to the intensity of the running. This means that running helps prevent the buildup of fats in the coronary artery walls. This effect has been noted in adults; training teenagers show no increase in HDL.

(continued on page 26)

U.S. All Time Top 50

(TO 1 NOVEMBER 1980)

JEFF JOHNSON PHOTO



LORI GREEN



GWEN LOUD

JEFF JOHNSON PHOTO



GWEN GARDNER

100 Meters

10.97	Evelyn Ashford	79
11.08	Wyomia Tyus	68
11.08	Brenda Morehead	76
11.13	Chandra Cheeseborough	76
11.15	Barbara Ferrell	68
11.21	Alice Brown	80
11.27	Iris Davis	72
11.29	Margaret Bailes	68
11.30	Dollie Fleetwood	80
11.30	Lisa Hopkins	80
11.31	Pam Jiles	76
11.32	Karen Hawkins	79
11.34	Sharon Ware	80
11.35	Diane Williams	80
11.36	Sharon Moultrie	80
11.38	Renaye Bowen	76
11.38	Jodi Anderson	80
11.40	Jan Smith	77
11.41	Brenda Finch	76
11.41	Jeanette Bolden	80
11.43	Rosalyn Bryant	76
11.43	Linda Wilson	79
11.43	Patrice Roberts	80
11.44	Michelle Glover	80
11.45	Wanda Hooker	79
11.46	Val Boyer	79
11.47	Sheila Calmese	78
11.49	Edith McGuire	64
11.49	Felicia Du Puch	80
11.50	Martha Watson	73
11.50	Janet Brown	76
11.50	Kim Robinson	77
11.51	Sandra Howard	77
11.51	Gwen Loud	80
11.51	Florence Griffith	80
11.52	Pam Greene	80
11.53	Regina McBride	79
11.53	Amanda Fields	80
11.56	Stephanie Hightower	78
11.56	Keila Bolton	80
11.56	Darlene Jefferson	80
11.57	Lori Green	76
11.57	Valerie Brisco	78
11.58	Rhonda Brady	77
11.58	Brenda Winston	77
11.58	Deborah Edwards	80
11.59	Marilyn White	64
11.59	Kathy Lawson	73
11.59	Brenda Fuller	78
11.59	Benita Fitzgerald	79
11.59	Ester Hope	80
11.59	McQueen	80

200 Meters

21.83	Evelyn Ashford	79
22.38	Brenda Morehead	80
22.77	Chandra Cheeseborough	75
22.78	Karen Hawkins	80
22.81	Pam Jiles	75
22.84	Valerie Brisco	79
22.87	Barbara Ferrell	68
22.95	Margaret Bailes	68
22.96	Debra Armstrong	76
23.03	Gwen Gardner	79
23.05	Rosalyn Bryant	76
23.08	Wyomia Tyus	68
23.08	Jackie Thompson	73



SHIELA CALAMESE



KATHY HAMMOND

JEFF JOHNSON PHOTO



SHARON DABNEY

23.09	Edith McGuire	64
23.13	Lisa Hopkins	80
23.19	Sherri Howard	80
23.20	Yolanda Rich	79
23.22	Gwen Smith	76
23.27	Gwen Loud	79
23.28	Alice Brown	80

23.31	Renaye Bowen	77
23.36	Val Boyer	80
23.38	Sandra Howard	77
23.38	Angel Doyle	80
23.39	Patrice Jackson	80
23.41	Freida Cobbs	79
23.43	Elaine Parker	80
23.44	Pat Dunlap	79
23.46	Liz Young	78
23.49	Lori Green	79

23.50	Kelia Bolton	79
23.50	Pam Marshall	80
23.51	Linda Wilson	80
23.52	Stephanie Brown	78
23.52	Wanda Hooker	80
23.54	Jeanine Brown	79
23.55	Florence Griffith	80
23.56	Gayle Butler	77
23.56	Randy Givens	80
23.57	Sharon Dabney	77

23.57	Alice Jackson	80
23.58	Sheila Calmese	78
23.59	Pam Greene	80
23.60	Brenda Gullede	80
23.62	Sharon Ware	80
23.65	Carolyn McRoy	79
23.66	Melanie Batiste	80
23.68	Kim Robinson	77
23.69	Belinda Little	80
23.69	Beverly Kearney	80

400 Meters

50.62	Rosalyn Bryant	76
50.90	Sheila Ingram	76
51.09	Sherri Howard	79
51.11	Patricia Jackson	78
51.23	Debra Sapenter	76
51.31	Sharon Dabney	78
51.57	Evelyn Ashford	79
51.99	Gwen Gardner	80
51.64	Kathy Hammond	72
51.70	Denean Howard	80

51.91	Mable Ferguson	72
51.94	Jennie Gorham	79
52.08	Valerie Brisco	79
52.16	Shirley Williams	76
52.19	Yolanda Rich	80
52.34	Roberta Belle	80
52.35	Robin Campbell	80
52.52	Essie Kelley	78
52.64	Pam Jiles	77
52.72	Debra Armstrong	78

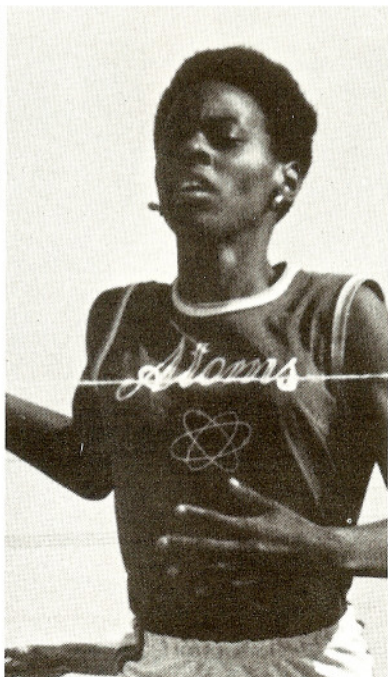
52.72	Alice Jackson	80
52.73	Kim Thomas	78
52.73	Easter Gabriel	78
52.76	Edna Brown	77
52.79	Jarvis Scott	68
52.90	Marian Franklin	80
53.05	Gwen Murray	79
53.07	Kathy Weston	77
53.08	Pam Rodgers	79
53.12	Freida Cobbs	78

53.14	Kelia Bolton	80
53.19	Arthurene Gainer	76
53.20	Lorna Forde	79
53.28	Veronica Williams	76
53.30	Liz Young	79
53.32	Delisa Walton	80
53.39	Deanne Gutowski	80
53.42	Brenda Finch	78



CHARLETTE COOKE

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CHERYL TOUSSAINT

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MADELINE MANNING

53.42	Arlise Emerson	78
53.50	Gwen Norman	76
53.51	Faye Paige	80
53.54	Robbin Coleman	78
53.61	Brenda Peterson	80
53.66	Cathy Rattray	80
53.68	Mary Harvey	78
53.69	Angela Dudley	79
53.71	Maxine Underwood	80
53.72	Pam Moore	80
53.74	Roslyn Dunlap	80
53.74	Marcia Martin	80

800 Meters

1:57.9	Madeline Manning	76
1:59.2	Mary Decker	80
2:00.0	Wendy Knudson	76
2:00.2	Cyndy Poor	76
2:00.3	Francie Larrieu	76
2:00.8	Kathy Weston	76
2:00.8	Julie Brown	77
2:01.0	Essie Kelley	78
2:01.3	Robin Campbell	80
2:02.0	Ruth Caldwell	78

2:02.0	Delissa Walton	80
2:02.2	Doris Brown	68
2:02.6	Leann Warren	80
2:02.8	Jan Merrill	77
2:02.8	Chris Mullen	79
2:03.0	Cheryl Toussaint	75
2:03.6	Joetta Clark	79
2:03.7	Debbie Vetter	77
2:03.7	Lee Ballenger	78
2:03.7	Sue Latter	79

2:03.9	Charlette Cooke	66
2:04.1	Susan Vigil	79
2:04.4	Terry Crawford	72
2:04.4	Kathy Hall	75
2:04.4	Liane Swegle	76
2:04.4	Ann Regan	77
2:04.5	Jarvis Scott	68
2:04.5	Nancy Shafer	69
2:04.6	Francie Kraker	70
2:04.6	Marcia Romesser	78

2:04.6	Darlene Beckford	79
2:04.7	Karel Jones	78
2:04.7	Deanna Coleman	79
2:04.8	Kim Gallagher	80
2:05.0	Debbie Heald	78
2:05.1	Johanna Forman	77
2:05.1	Dana Glidden	79
2:05.3	Teri Wierson	78
2:05.3	Diane Ray	80
2:05.5	Linda Goen	77
2:05.6	Debbie Scott	77

2:05.7	Robin Blaine	78
2:05.7	Renie Durrand	80
2:06.0	Lynn Hollins	76
2:06.0	Cynthia Warner	80
2:06.1	Dana Glidden	80
2:06.2	Minnie McPhatter	80
2:06.4	Cheryl Roulier	75
2:06.5	Marilyn Carlson	76
2:06.5	Radius Jacobs	80
2:06.6	Dana Amim	80

1500 Meters

3:59.5	Mary Decker	80
4:02.7	Jan Merrill	76
4:05.1	Francie Larrieu	76
4:06.4	Julie Brown	79
4:06.9	Cyndy Poor	76
4:08.3	Cindy Bremser	76
4:10.9	Debbie Heald	78
4:12.5	Brenda Webb	80
4:12.7	Judy Graham	77
4:12.8	Francie Kraker	72



DEBBIE VETTER



PIA PALADINO



LYNN JENNINGS

4:12.8	Linda Goen	80
4:13.1	Debbie Vetter	77
4:14.1	Madeline Manning	80
4:14.3	Maggie Keyes	80
4:14.6	Doris Brown	71
4:15.2	Leann Warren	80
4:15.6	Doreen Ennis	77
4:16.0	Ruth Caldwell	76
4:17.1	Suzie Houston	79
4:17.3	Kate Keyes	75

4:17.6	Alice Trumbly	80
4:17.8	Cathy Twomey	80
4:18.0	Margaret Groos	79
4:18.1	Lynn Jennings	77
4:18.1	Chris Mullen	80
4:18.5	Brigid Leddy	79
4:18.6	Michele Bush	80
4:18.7	Kim Neall	79
4:18.9	Kathy Gibbons	72
4:18.9	Cheri Williams	79

4:19.0	Mary Rawe	80
4:19.4	Rene Urish	77
4:19.6	Darlene Beckford	79
4:20.3	Marcia Romesser	79
4:20.8	Diane Vetter	78
4:20.9	Linda Portasik	80
4:21.1	Robin Campbell	75
4:21.1	Michelle Brown	80
4:21.3	Teri Anderson	76
4:21.3	Joan Corbin	79

4:21.5	Eileen Clausus	72
4:21.8	Wendy Knudson	76
4:21.8	Jill Haworth	79
4:22.0	Jackie Richards	80
4:22.6	Debra Pavik	80
4:22.8	Sheila Ralston	80
4:23.0	Kate Schilly	77
4:23.1	Val Horan	80
4:23.2	Cindy Schmandt	80
4:23.3	Jane Ensrud	79

One Mile

4:21.7	Mary Decker	80
4:27.6	Francie Larrieu	79
4:28.3	Jan Merrill	79
4:30.3	Julie Brown	80
4:31.1	Debbie Heald	78
4:37.4	Cindy Bremser	79
4:37.9	Maggie Keyes	79
4:38.0	Debra Pavik	80
4:38.3	Kate Keyes	78
4:39.0	Lynn Jennings	78

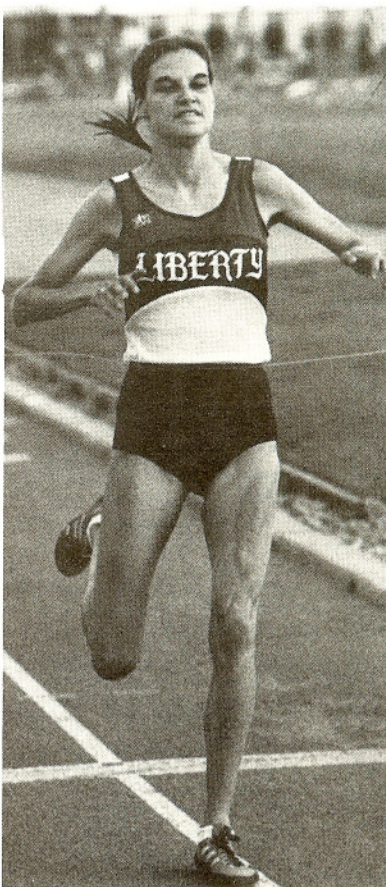
4:39.6	Doris Brown	71
4:39.9	Darlene Beckford	80
4:40.5	Kathy Gibbons	73
4:40.7	Eileen Clausus	73
4:41.0	Jenifer White	80
4:41.3	Judy Graham	77
4:41.4	Cheri Williams	79
4:41.4	Brenda Webb	80
4:41.5	Mary Rawe	80
4:41.6	Teri Anderson	72

4:42.5	Francie Kraker	71
4:42.5	Suzie Houston	80
4:42.6	Deanna Coleman	78
4:43.1	Julie Shea	77
4:43.5	Ann Henderson	78
4:44.1	Patty Murnane	80
4:44.3	Cyndy Poor	79
4:44.6	Joan Benoit	79
4:44.7	Ellen Schmidt	79
4:48.8	Margaret Groos	80

4:45.3	Debbie Quatier	74
4:45.5	Peg Neppel	75
4:46.0	Mary Shea	79
4:46.4	Liane Swegle	77
4:46.4	Linda Goen	79



ROBIN CAMPBELL



JUDI ST. HILAIRE

U.S. ALL TIME TOP 50 (continued)

4:46.5	Kim Gallagher	79
4:46.6	Aileen O'Connor	79
4:46.7	Eileen Claugus	72
4:46.8	Kim Neall	79
4:46.8	Polly Plummer	80

4:46.9	Charlotte Lettis	78
4:47.1	Gina Myer	78
4:47.2	Alice Trumbley	79
4:47.4	Sue Kinsey	76
4:47.4	Tara Arnold	78
4:47.4	Vicki Cook	80
4:47.5	Bonnie McGilinchy	80
4:47.6	Renee Urish	77
4:47.6	Jill Haworth	79
4:48.3	Kathy Mills	78

3000 Meters

8:38.8	Mary Decker	80
8:42.6	Jan Merrill	78
8:51.1	Francie Larrieu	79
8:58.3	Julie Brown	79
9:00.0	Cindy Bremser	79
9:02.5	Brenda Webb	80
9:02.6	Julie Shea	80
9:02.8	Joan Benoit	79
9:02.9	Mary Shea	80
9:03.4	Kathy Mills	78

9:07.6	Margaret Groos	79
9:08.6	Lynn Bjorklund	75
9:11.2	Maggie Keyes	80
9:12.7	Sue Kinsey	78
9:17.4	Peg Neppel	75
9:18.6	Carol Cook	77
9:19.0	Kris Banks	78
9:19.0	Joan Hansen	80
9:19.3	Ellison Goodall	78
9:19.6	Teri Anderson	76

9:20.7	Pia Palladino	80
9:22.0	Aileen O'Connor	80
9:23.9	Kathy Mintie	79
9:24.1	Cyndy Poor	75
9:24.8	Vicki Cook	80
9:25.1	Molly Morton	79
9:26.4	Jody Parker	79
9:26.6	Kate Keyes	75
9:26.9	Patty Lyons	80
9:27.0	Sue Schaefer	78

9:27.5	Judy Graham	77
9:27.4	Lynn Lashley	77
9:27.4	Dia Elliman	79
9:27.5	Cathy Twomey	79
9:28.0	Cindy Schmandt	80
9:28.2	Kathy Gibbons	73
9:28.7	Eileen Hornberger	80
9:28.9	Katy Mountain	79
9:29.2	Cheri Williams	79
9:29.3	Jennifer White	78

9:30.3	Linda Goen	80
9:30.4	Marybeth Spencer	77
9:30.4	Suzie Houston	80
9:30.7	Mary Rawe	80
9:30.8	Eileen Claugus	73
9:30.9	Betty Springs	78
9:31.0	Debra Pavik	80
9:31.3	Rocky Racette	80
9:31.4	Eryn Forbes	80
9:31.8	Carol Urish	80

9:31.8	Donna Gathje	80
9:31.8	Laura Craven	80

5000 Meters

15:30.6	Jan Merrill	80
15:35.5	Kathy Mills	78

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LYNN BJORKLUND

15:41.6	Peg Neppel	76
15:41.3	Julie Shea	80
15:43.1	Joan Benoit	79
15:43.4	Julie Brown	74
15:47.7	Cindy Bremser	79
15:47.7	Chris Ramirez	79
15:51.7	Margaret Groos	80
15:52.3	Brenda Webb	80

15:57.0	Teri Anderson	77
15:57.3	Mary Shea	80
16:00.4	Sue Kinsey	78
16:02.2	Ellison Goodall	78
16:03.6	Judi St. Hilaire	80
16:03.9	Betty Springs	80
16:04.9	Eileen Hornberger	80
16:05.9	Sue Schaefer	78
16:10.5	Rocky Racette	80
16:12.0	Kris Banks	78

16:12.7	Donna Gathje	80
16:13.3	Carol Urish	80
16:15.9	Peggy Cleary	80
16:14.1	Carol Cook	77
16:16.2	Debbie Quatier	78
16:16.8	Kathy Mintie	79
16:17.7	Mary Walsh	80
16:18.3	Molly Morton	79
16:23.1	Kim Schnurpfel	80
16:23.3	Marybeth Spencer	77

16:24.0	Suzanne Richter	79
16:26.8	Jan Oehm	79
16:28.2	Lynn Hjelte	80
16:29.3	Karen Bridges	77
16:29.6	Eryn Forbes	80
16:30.0	Jennifer White	80
16:30.4	Ann Mulrooney	80
16:31.5	Ruth Hamilton	80
16:31.8	Ellen Hart	80
16:32.9	Jody Parker	79

16:33.1	Katy Mountain	79
16:34.4	Marjorie Kaput	80
16:34.7	Kim Gallagher	79
16:34.8	Debbie Vetter	79
16:35.0	Nancy Conz	80
16:35.3	Mary Rawe	80
16:35.8	Leandra Barinaga	80
16:35.9	Joy Hansen	80
16:36.2	Doris Brown	78
16:37.6	Katy Schilly	78

10000 Meters

32:52.5	Mary Shea	79
32:52.7	Joan Benoit	79
33:02.4	Julie Shea	80
33:03.4	Betty Springs	80
33:15.1	Peg Neppel	77
33:31.1	Judi St. Hilaire	80
33:33.1	Carol Urish	80
33:37.5	Ellen Hart	80
33:40.2	Ellison Goodall	78
33:42.7	Sue Kinsey	78

33:45.6	Kris Banks	80
33:48.5	Ann Sullivan	80
33:55.6	Jan Oehm	80
34:03.8	Nancy Conz	80
34:05.6	Beth Sheridan	80
34:05.6	Jill Nolen	80
34:16.6	Mary Walsh	80
34:17.3	Karen Bridges	78
34:19.4	Debbie Eide	80
34:19.5	Julie Brown	77

34:22.8	Michele Aubuchon	80
34:24.0	Amy Lafoon	79
34:24.7	Peggy Cleary	80
34:27.3	Karen Fitz	79

34:27.6	Nancy Seeger	80
34:28.2	Lauri Binder	80
34:28.5	Molly Morton	79
34:30.4	Aileen O'Connor	80
34:31.4	Barbara Sabitus	80
34:33.2	Maria Tilman	80

34:36.0	Sally Zook	80
34:40.2	Linda Heinmiller	79
34:44.4	Pat Reisdorfer	80
34:49.1	Judith McCreary	80
34:52.7	Jeneen Hill	79
34:55.1	Brenda Saunders	80
35:01.2	Bridgette Baker	80
35:02.7	Jan Merrill	80
35:06.8	Michelle Bush	80
35:08.1	Kathy Adams	78

35:11.2	Ann Trasonb	78
35:12.0	Debbie Ritchie	78
35:17.9	Marty Stinson	80
35:22.2	Phyllis Olrich	78
35:22.7	Lori Alzner	79
35:28.2	Marty McElwee	80
35:32.4	Rainey Roetman	79
35:32.6	Nadia Garcia	75
35:32.6	Jane Robinson	79
35:33.6	Cheryl Bridges	76

Marathon

2:29:33	Patty Lyons	80
2:31:23	Joan Benoit	80
2:36:02	Nancy Konz	80
2:36:23	Julie Brown	78
2:37:57	Kim Merritt	77
2:38:09	Laurie Binder	80
2:38:19	Jackie Hansen	75
2:38:50	Sue Krenn	79
2:39:11	Miki Gorman	76
2:39:48	Gail Volk	79

2:40:34	Kiki Sweigart	80
2:41:01	Marty Cooksey	80
2:41:07	Jane Wezel	80
2:41:10	Elizabeth Berry	78
2:41:32	Gayle Olinek	80
2:41:44	Beth Guerin	80
2:41:50	Kathleen Sarnet	80
2:41:52	Karen Fitz	80
2:42:08	Sue Kinsey	79
2:42:15	Shirley Durtschi	80

2:42:23	Ellison Goodall	80
2:42:44	Sue Peterson	78
2:42:45	Anne Sullivan	80
2:43:00	Heike Skaden	80
2:43:16	Jane Robinson	80
2:43:20	Joann Dahlkoetter	80
2:43:33	Chodnicki	80
2:43:38	Cindy Darlymple	79
2:43:51	Janis Arenz	79
2:43:51	Jane Robinson	79

2:44:29	Karen Blackford	79
2:44:33	Dana Slater	79
2:44:40	Toni Bernhard	80
2:44:45	Vanessa Vaojdos	80
2:44:46	Donna Burge	80
2:44:52	Gayle Barron	78
2:45:11	Lorrie Dierdorff	80
2:45:20	Wendy Walker	79
2:45:26	Marilyn Belwood	80
2:45:29	Tina Gandy	80

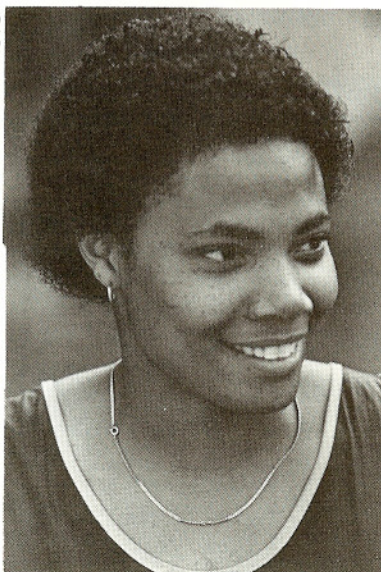
2:45:36	Penny De Moss	78
2:45:36	Debbie Eide	80
2:45:45	Karen Doppes	79
2:45:50	Jane Wipf	79
2:45:57	Amy Johns	79
2:46:20	Debbie Lewis	79
2:46:23	Diane Barrett	77

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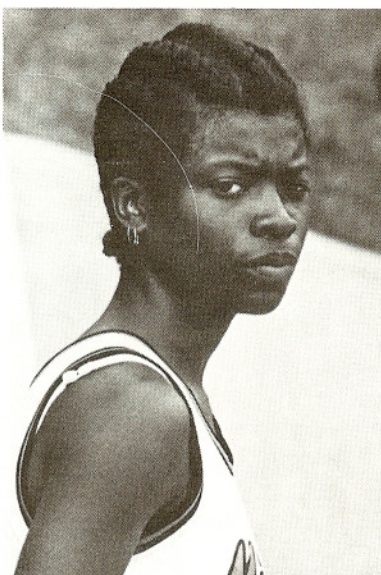
MARILYN LINSENMEYER

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BRENDA CHAMBERS

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PAM PAGE

2:46:34	Leal Reinhart	77
2:46:42	Julie Shea	79
2:46:44	Elaine Campo	80

100m Hurdles

12.86	Deby LaPlante	79
12.90	Stephanie Hightower	80
12.95	Candy Young	79
13.11	Benita Fitzgerald	80
13.14	Patty VanWolvelaere	78
13.25	Jane Frederick	78
13.32	Linda Weekly	80
13.34	Mamie Rallins	72
13.46	Lori Dinello	80
13.47	Karen Wechsler	80

13.48	Pam Page	80
13.50	Sonya Hardy	76
13.50	Brenda Calhoun	78
13.50	Mary Smith	78
13.50	Rhonda Brady	78
13.52	Pat Donnelly	76
13.55	Sherry Ballew	80
13.57	Karen Holmes	80
13.59	Jackie Washington	80
13.62	Jodi Anderson	79

13.64	Gayle Harris	78
13.66	Jill Redo	80
13.69	Mitzi McMillin	78
13.71	Debra Deutsch	80
13.71	Marlene Harmon	80
13.75	Lisa Gourdine	80
13.76	Gayle Watkins	80
13.77	Marilyn Linsenmeyer	76
13.77	Kay Garnett	79
13.78	Lacey O'Neal	72

13.80	Linda Bourn	80
13.82	Sherifa Sanders	80
13.82	Linda Waltman	80
13.83	Kim Turner	79
13.84	Carol Tomson	76
13.84	Lori Lowrey	80
13.85	Claire Hairston	80
13.86	Cheryll Hawthorne	80
13.87	Mary Ayers	76
13.88	Conzetta Young	78

13.89	Colleen Reinstra	80
13.92	Dolores Render	78
13.96	Nanci Arnold	76
13.96	Kim Hatchette	78
14.00	Debbie Jacobsen	76
14.01	Tara Reynolds	80
14.02	Debbie Carson	77
14.02	Gwen Poss	80
14.03	La Verne Neal	78
14.03	Debra Melrose	80
14.05	Kim Willis	79
14.05	Lorraine Tumblings	80

400m Hurdles

56.16	Esther Mahr	80
56.40	Sandy Myers	80
56.61	Mary Ayers	77
56.63	Debbie Esser	79
57.24	Arthurine Gainer	76
57.60	Edna Brown	79
57.90	Sandra Souza	77
58.15	Tammy Etienne	80
58.31	Sandra Farmer	79
58.33	Debra Melrose	79

58.62	Clydine Crowder	76
58.62	Denise Waddy	78
58.62	June Smith	78
58.63	Brenda Chambers	80

U.S. ALL TIME TOP 50 (continued)

58.70	Collette Winlock	78
58.77	Marlene Harmon	80
58.80	Kim Whitehead	80
58.86	Michelle Hawthorne	79
58.97	Teri Seipel	80
59.05	Stephanie Vega	80

59.07	Christine Crowther	79
59.10	Vivian Scruggs	80
59.13	Cathy Gebhards	79
59.19	Peach Payne	80
59.15	Patty Mannies	79
59.27	Teri Wierson	76
59.46	Tracy Nelson	80
59.53	Carol Humphries	80
59.55	Debra McLendon	80
59.73	Rachel Cleary	80

59.90	Jodi Anderson	77
59.95	Judy Brown	80
59.97	Nancy Robinson	77
60.00	Carolyn Brinkley	78
60.02	Karen Taylor	80
60.07	Tracy Finley	80
60.10	Tonya Brown	80
60.14	Debbie Vetter	77
60.25	Betty Spencer	78
60.26	Rachel Curry	80

60.31	Sheila Hamilton	77
60.44	Gail Hicks	80
60.48	Lois Davis	79
60.50	Marilyn Carlson	77
60.50	Anita Jones	79
60.56	Diane Steinhart	80
60.57	Chris Davenport	80
60.59	Lori Lowrey	80
60.59	Tanya Brown	80
60.64	Cindy Bartlett	80

60.64	Margaret Demorest	80
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High Jump

6'4¾	Louise Ritter	80
6'4	Colleen Reinstra	80
6'3½	Pam Spencer	79
6'2¾	Joni Huntley	75
6'2	Paula Girven	79
6'1¼	Denise Daebelliehn	80
6'1¼	Sally McCarthy	80
6'1	Sharon Burrill	78
6'1	Sue McNeal	79
6'0¾	Cindy Gilbert	80

6'0½	Maggie Garrison	78
6'0	Marilyn Dubbs	78
6'0	Sherri Felton	78
6'0	Jane Frederick	78
6'0	Phyllis Blunston	79
6'0	Jalene Chase	79
6'0	Kim Harrell	79
6'0	Kari Gosswiller	80
6'0	Karen Lysaght	80
6'0	Kym Carter	80

6'0	Wendy Markham	80
6'0	Susan Linde	80
6'0	Yolanda Gibson	80
6'0	Kim Carter	80
5'11½	Tonya Alston	79
5'11¼	Beverly Washington	79
5'11¼	Patsy Walker	79
5'11¼	Ellie Hayden	80
5'11¼	Theresa Smith	80
5'11	Eleanor Montgomery	69

5'11	Susan Hackett	74
5'11	Anne Gilliland	77

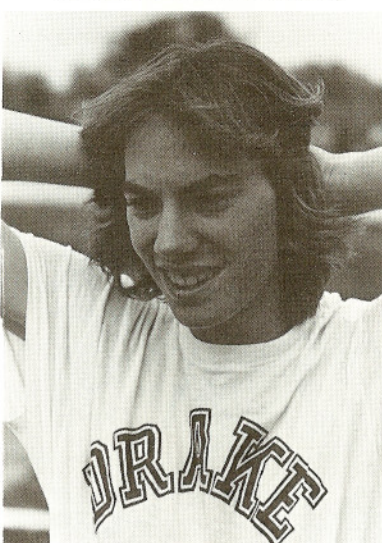


BETTY SPENCER



ELEANOR MONTGOMERY

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SHARON BURRILL

5'11	Dale Wallace	78
5'11	Carina Westover	78
5'11	Julie Cosgrove	78
5'11	Margaret Metcalf	78
5'11	Connie Dorsey	78
5'11	Kathy Hamilton	79
5'11	Carolyn Ford	79
5'11	Joan Brockhaus	79

5'11	Fern Simon	79
5'11	Melinda Morris	80
5'11	Karen Krawiec	80
5'11	Anne Erpenbeck	80
5'11	Tamela Penny	80
5'11	Helen Ogar	80
5'10½	LuAnn Morris	80
5'10½	Sue Blake	80
5'10½	Deb Ryals	80

5'10½	Jodi Anderson	80
5'10½	Yvonne Heinrich	80
5'10½	Nancy Steiner	80
5'10½	Inge-Lisa Christensen	80

Long Jump

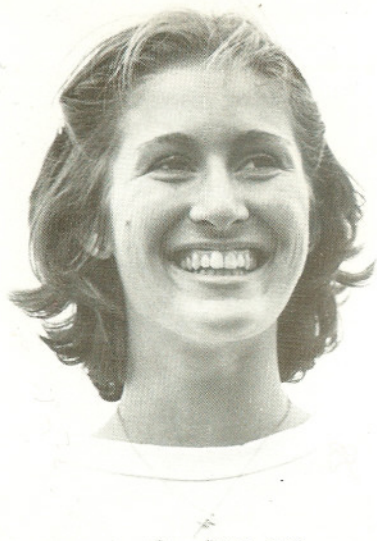
22'11½	Jodi Anderson	80
22'3	Kathy McMillan	76
21'7¾	Carol Lewis	80
21'7½	Martha Watson	74
21'7½	Sheron Walker	76
21'6½	Pat Johnson	80
21'6¼	Jane Frederick	78
21'6	Willye White	64
21'3½	Lorraine Ray	77
21'0	Cornelia Johnson	80

20'11¾	Vicki Betts	76
20'9¾	Jackie Joyner	80
20'9½	Marilyn King	76
20'9¼	Kim Attlessey	72
20'9¼	Gwen Loud	79
20'8¾	Marlene Harmon	80
20'8¼	Cheryl Butler	74
20'7¾	Lanessa Jones	80
20'7¾	Sandy Myers	80
20'7¼	Tammie Rucker	79

20'7	Mary Ayers	77
20'7	Debra Carson	78
20'6½	Shari Fox	80
20'6½	Becky Kaiser	80
20'6½	Sandy Crabtree	80
20'6	Pat Winslow	67
20'6	Judy Pollion	79
20'5	Sheila Pettit	77
20'5	Kim Brooks	78
20'4¾	Princess Reese	79

20'4½	Roxanne Keating	78
20'4½	Carrie McLaughlin	79
20'4½	Debra Melrose	80
20'4	Sabrina Douglas	78
20'4	Angie Bradley	80
20'4	Karen Taylor	80
20'4	Evalyn Hatcher	80
20'3¾	Cookie Fairley	78
20'3½	Margaret Matthews	58
20'3½¾	Amy Davis	78

20'3½	Joni Huntley	78
20'3½	Pat Miller	80
20'3½	Jo Anna Harper	80
20'3¼	Mary Harrington	80
20'2¾	Debra Wedgeworth	71
20'2½	Judy Vernon	71
20'2¼	Kathy Harrison	80
20'1¾	Gale Fitzgerald	76
20'1¾	Lisa Gouridine	79

**SALLY McCARTHY****HELEN OGAR****PAM SPECER**

20'1 1/2 Pam Donald

80

Shot Put

62'7 3/4	Maren Seidler	79
56'8	Ann Turbyne	80
54'9 1/4	Earlene Brown	60
54'9	Kathy Devine	79
53'10 1/2	Lorna Griffin	80
53'5 1/2	Jan Svendsen	72
53'1	Lynn Graham	71
53'1	Jane Frederick	78
52'10 1/4	Sandy Burke	80
52'1 1/2	Marcia Mecklenberg	79

52'0 1/2	Carol van Pelt	78
51'8 1/2	Mary Jacobson	79
51'7	Brenda Denny	79
51'6 1/2	Emily Dole	78
51'5 1/2	Lynne Winbiger	77
51'5 1/4	Jill Stenwall	80
51'4	Lynette Matthews	71
50'10	Cindy Reinhardt	73
50'10	Melody Rose	80
50'9 3/4	Elaine Sobansky	80

50'7 3/4	Denise Wood	80
49'9 3/4	Sue Thornton	80
49'9 3/4	Sharon Hamilton	80
49'8 1/4	Deanna Patrick	77
49'5	Heidi Kauti	80
49'5 1/4	Cel Rutledge	62
49'1 1/2	Neni Davis	80
49'1	Karen Marshall	78
49'0 1/4	Ramona Pagel	80
48'11 3/4	Susie Ray	80

48'11 1/2	Christy Tumberger	77
48'11 1/2	Ella Abercrombie	79
48'11	Linda Langford	75
48'10 1/2	Rosario Ramos	80
48'9	Suzie Snyder	73
48'7 1/2	Kelly Curran	80
48'7	Gail Koziara	80
48'6 3/4	Jeanne Daniels	79
48'6	Cynthia Wyatt	62
48'6	Jo Beth Palmer	80

48'4 1/2	Natalie Kaalawahia	80
48'4 1/4	Carrie Albano	80
48'3 1/2	Sharon Sheppherd	63
48'2	Nancy Jenkins	79
47'10 1/2	Leslie Deniz	80
47'9	Dottie Barnes	71
47'9	Annette Bohach	79
47'6 1/2	Deanne Patrick	79
47'5 3/4	Cindy Klouse	80
47'5 1/2	Marion Davis	80

Discus Throw

207'5	Lorna Griffin	80
189'6	Lynn Anderson	79
189'0	Olga Connolly	72
187'9	Denise Wood	80
183'11	Leslie Deniz	80
181'7	Helene Connell	80
180'11	Jan Svendsen	76
178'8	Vivian Turner	72
177'2	Gale Zaphiropoulos	80
176'10	Earlene Brown	60

**JODI ANDERSON****CAROL LEWIS****MARTHA WATSON**

U.S. ALL TIME TOP 50 (continued)

JEFF JOHNSON PHOTO



LYNN WINBIGLER

JEFF JOHNSON PHOTO



LISA VOGELSANG



JONI HUNTLEY

176'0	Linda Lamgford	76
176'0	Lisa Vogelsang	80
174'6	Carol Frost	71
174'0	Julie Hansen	78
171'10	Monette Branson	77
170'9	Julie Cart	80
168'3	Karen Marshall	77
165'11	Marcia Mecklenberg	80
165'9	Tarri Sabol	75
165'0	Pia Iacovo	80

164'0	Brenda Denny	79
163'5	Carol van Pelt	80
163'2	Karen McDonald	79
163'0	Linda Montgomery	76
162'10	Diane Pugh	80
162'9	Julie Jones	80
162'6	Penny Neer	80
162'0	Ranee Kletchka	69
161'6	Kathy Picknell	79
161'4	Leslie Hoerner	80

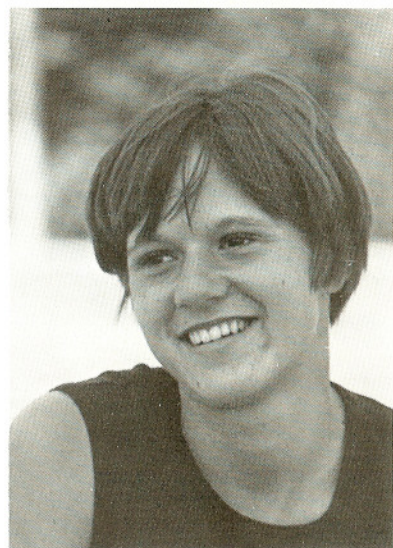
161'1	Carol Finsrud	78
160'11	Carol Cady	80
160'10	Robin Small	79
160'4	Ramona Pagel	80
160'2	Laura Desnoo	80
160'1	Jackie Henry	80
159'11	Dana Olson	80
159'10	Francine Kaylor	78
159'7	Debbie Herman	80
159'7	Lisha Lass	80

159'2	Pamela Kurrell	60
159'1	Cindy Johnson	80
158'10	Cindy Pottle	77
158'9	Nancy Norberg	68
158'9	Mary Stevenson	80
158'7	Cindy Reinhoudt	72
158'4	Christy Pyle	78
158'2	Suzie Snyder	73
157'8	Terri Byland	80
157'5	Dedi Kavanaugh	80

Javelin Throw

227'5	Kate Schmidt	78
212'6	Karin Smith	80
207'11	Sherry Calvert	78
198'8	Barbara Friedrich	67
196'3	Ranae Bair	67
196'1	Cathy Sulinski	76
192'5	Lynn Cannon	77
187'8	Marjorie Lamey	57
186'8	Celeste Wilkinson	78
186'4	Roberta Brown	71

181'3	Mary Osborne	80
180'7	Patty Kearney	80
178'10	Louise Gerrish	68
178'4	Lynda Hughes	80
178'3	Jeanne Eggart	79
175'3	Connie Gasson	77
174'6	Barbara Whitfield	76
173'11	Jacque Nelson	80
173'1	Linn Dunton	80
172'0	Jean Sweeney	71



LINDA LANGFORD



BARBARA FRIEDRICH

DON WILKINSON PHOTO



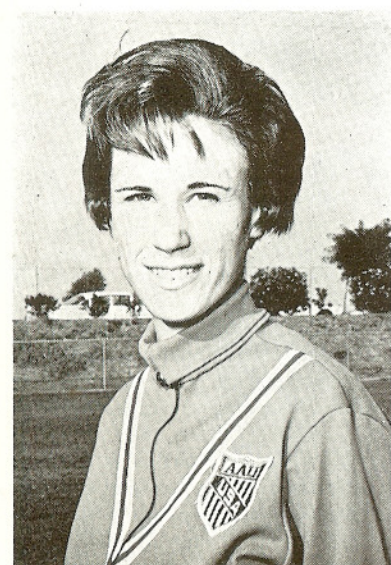
OLGA CONNOLLY



KARIN SMITH



SHERRY CALVERT



RANAE BAIR

170'9	Gloria Wilcox	64
169'10	Donna Dietrich	78
169'10	Sally Harmon	79
169'9	Tonja Reigle	79
169'3	Susan Armstrong	73
168'11	Renee Lambrecht	79
168'10	Susie Norton	75
168'6	Debbie Langevain	73
168'5	Frances Davenport	63
168'4	Sue Gibson	80

167'8	Nadine Bowers	75
167'4	Keri Camarigg	78
167'4	Donna Mayhew	80
167'4	Deanna Carr	80
166'8	Debbie Williams	78
166'6	Teresa Cooper	80
166'4	Sally Harmon	80
166'1	Karen Oldham	60
165'5	Kitsy Hall	76
164'7	Jaime Gale	79

164'4	Lurline Struppeck	67
164'2	Lisa Kirk	76
163'8	Tami Rose	80
162'9	Marareta Carell	72
162'3	Joyce Hombel	72
162'2	Sonya Bennett	77
161'5	Wendy Sorrick	72
161'3	Joy Hall	78
161'2	Trish Wright	80
161'1	Lisa Van Bentharn	75

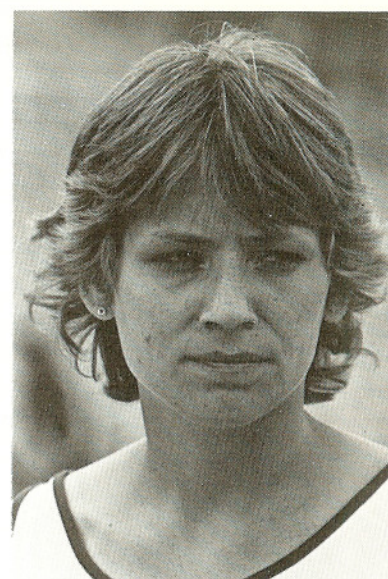
Pentathlon

4708	Jane Frederick	79
4697	Jodi Anderson	80
4346	Marlene Harmon	80
4314	Linda Waltman	80
4203	Dana Collins	78
4199	Marilyn King	80
4118	Mary Harrington	80
4080	Cindy Gilbert	80
4066	Joan Russell	80
4037	Susan Brownell	80

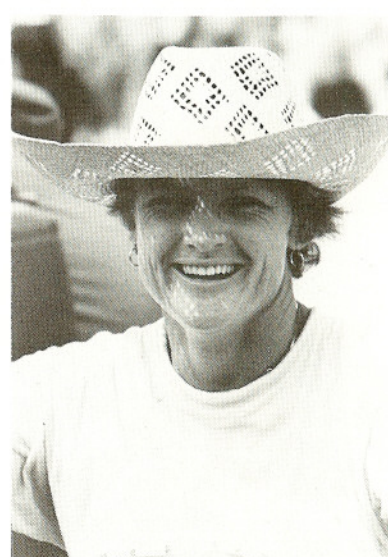
4034	Teri Seippel	80
4072	Patsy Walker	77
4072	Judy Fontaine	78
4060	Denise Cornell	78
4000	Theresa Smith	80
3979	Cindy Banks	80
3954	Nancy Malloy	79
3937	Brenda Wilson	79
3926	Nancy Kindig	80
3925	Sharon Hatfield	80

3899	Tonya Alston	80
3895	Judy Pollion	78
3888	Colleen Reinstra	80
3882	Marilyn Linsenmeyer	78
3872	Kerry Zwart	78
3862	Jenny Stary	80
3855	Suzy Ray	78
3845	Heidi Hertz	78
3843	Janet Terp	80
3820	Lori West	78
3808	Sondra Obermeyer	80

3803	Lynn Kinney	78
3789	Sandra Lambert	80



NANCY KINDIG



MARILYN KING



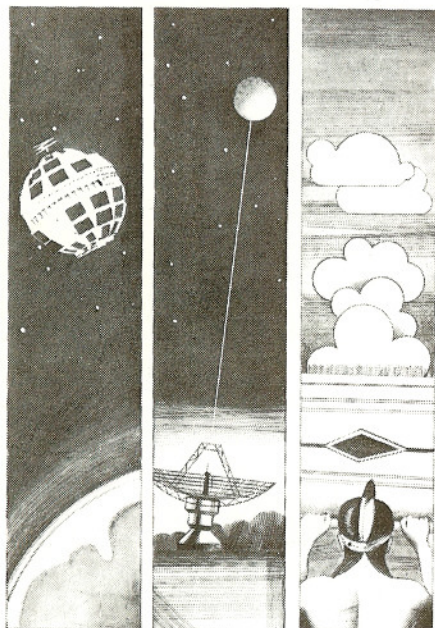
LINDA WALTMAN

U.S. ALL TIME TOP 50 (continued)

3772	Wendy Limbaugh	80
3769	Paula Girven	78
3762	Karen Frazee	79
3762	Peggy Schafer	80
3761	Luanne Morris	80
3761	Brenda Wilson	80
3743	Lynn Adams	80
3738	Cathy Wilson	80
3733	Carrie McLaughlin	80
3729	Lynn Adams	80
3718	Brenda Wilson	80

WTW

**We can't
afford
to run out
of ideas.**



Our colleges and universities—our most vital source of new ideas—are in deep financial trouble. If they can't get the money they need to do their job right, we may all be back to smoke signals again before we realize it.

**Make America smarter.
Give to the college of your choice.**



CHOLESTEROL, DIET AND RUNNING

(continued from page 16)

Since 1966 a decrease has been noted in the incidence of coronary vascular disease. This can be explained by a 22% decrease in cigarette smoking, a 19% decrease in the consumption of milk and cream, a 12% decrease in egg consumption, and a 56% decrease in ingestion of animal fats and oils. These changes have been associated with a 4% to 8% decline in average LDL serum levels in Americans.

Earlier detection of high blood pressure and attempts to warn against Type A or stressful life styles have also played a preventive role.

As important, and with perhaps greater promise, is the role of exercise. Although no clear association is evident between competition and health, a link between exercise and disease prevention seems to be emerging. Since running can improve HDL cholesterol levels thereby adding to healthier cardiac function, it also can improve diet, decrease smoking, lower blood pressure, and relieve tension.

Determining a direct cause and effect relationship however, between any two factors is difficult since behavior changes on many different levels. Giving credit to one modification such as weight control over another such as cholesterol reducing, is difficult to accomplish and hence the fallacy in the National Food and Nutrition Board's thinking.

The subject of triglycerides, another well-studied blood-fat, offers a similar problem. A recent New England Journal of Medicine article showed no statistical evidence of high triglycerides causing heart disease. This would tend to discount their importance. However, this is epidemiological or statistical evidence. Clinically, it is well known and accepted that people with high triglyceride levels have more heart disease. Although not a cause and effect relationship, it is clear that those whose life style encourages high triglyceride levels (particularly the obese and inactive), have a greater chance of cardiac disease. On the other hand, consistent exercise and weight loss both add to lowering triglyceride.

This complicated mosaic of interrelated factors slowly becomes pieced together and understood. Of all these factors, exercise and its impact on the body's metabolism seems a relatively inexpensive and appealing method for disease prevention.

However, before its impact can be felt outside the narrow community of long distance runners (and other endurance sports), better and more sustained research must be done. To date, this research is sorely lacking. Running probably is good for us all, but we need to know more about it before we can recommend it to the population at large as a prevention for heart disease.

WTW



(continued from page 4)

that Debbie Vetter will graduate following the fall quarter at Iowa State, but twin sister Diane will be around and eligible through the rest of the 1980/81 season. But, nay, the name of Vetter will not disappear as younger sister Juanita will be continuing her running at Slippery Rock State . . . Sissel Bjerkenas of Norway came to the University of Wyoming as a skier but through attrition moved to track and cross country. From a non-runner to a competitor in the AIAW National Cross Country Championships as a sophomore is quite an accomplishment . . . The early results of the "Names I Like" contest don't solve much. We have many ballots returned to us to date but not a single name has received more than one vote! In my early years of coaching, I had a high school Class "C" team of eight athletes. When they voted

for captain all eight received a vote apiece . . . Spanish 400m hurdler, Rosa Colorado, who won the "B" race at the World Championships at Sittard, Holland, earlier this year, has been suspended for using steroids and her title has been taken from her. Six weeks before the competition, Rosa had fallen over a hurdle and broken a finger. She had been treated by her physician with three injections of a product which contained the steroid detected in the tests. Once again it is pointed out by the IAAF that athletes should report such a thing to their officials. In the case of Rosa Colorado, she would have been unable to compete at Sittard—but she would not have been suspended for the next 18 months.

WTW

THE COMPETITIVE EDGE



A BREAK THROUGH IN NUTRITION

SPORT 15 • ENERGY 80 • MUSSEL+ • POWER C+ • PRO-ZYME • OMNI 2000

DON'T BE MISLEAD . . .

SPORT 15

1 FORMULA

SPORT 15, based on the Russian "B-15" formula used in the olympics, was first introduced to the U.S. by our laboratories, and many professional athletes are now using **SPORT 15** as part of their training program. The active metabolite behind "B-15" activity is N,N-Dimethylglycine (DMG), a natural, non-toxic food component found in both plant and animal sources. The active ingredients in our **SPORT 15** formula are based on DMG and calcium gluconate as an equimolar mixture. DMG's value as part of a remedial or supplemental dietary program cannot be overestimated. As an intermediary metabolite, DMG can increase the utilization of oxygen in the body, bring about faster recovery rates and aid in detoxification. Athletes taking DMG report greater endurance and stamina; it also increases the body's immune response. Most important for athletes, however, is **SPORT 15's** ability to reduce the amount of lactic acid produced by the muscles during times of heavy exercise or stress, which, in turn, reduces the onset of cramps and fatigue in muscles.

Suggested use:
3 to 6 tablets daily

Contents:
Microcrystalline Cellulose
(Vegetable origin)
Dicalcium Phosphate

Calcium Gluconate,
N,N-Dimethylglycine,
Tricalcium Phosphate



2 FORMULA

ENERGY 80

ENERGY 80 is the most unique produce available to the athlete. This special fast-acting, fatigue fighting formula contains mineral ascorbates, aspartates, vitamins, methyl donors, and fat metabolizers, all of which contribute to an immediate increase in the athlete's mental alertness and energy output. L-glutamine and aspartates serve as brain fuel and increase mental awareness and concentration. Along with DMG, aspartates also play an important role in the production of energy in the muscles while under stress. **ENERGY 80's** fat metabolizers and methyl donors—methionine, betaine, choline, inositol, and lecithin—are effective in mobilizing fats and protecting the liver from fatty infiltration. **ENERGY 80** is formulated to up the athlete's energy production, and thereby optimize physical and mental performance.

Suggested Use: One with breakfast and one with lunch.

Contains:

	% U.S. RDA
Vitamin C	250 mg. 417
(as Calcium, Magnesium Ascorbate)	
Folic Acid	25 mcg. 6
Vitamin B6	25 mg. 1250
(Pyridoxine HCl)	
Vitamin B12	100 mcg. 1667
(Cyanocobalamin)	
Pantothenic Acid	25 mg. 250
Magnesium	50 mg. 13
Lecithin	150 mg.

Choline (Bitartrate)	25 mg.
Inositol	20 mg.
N,N-Dimethylglycine	
Hydrochloride	20 mg.
Betaine HCl	20 mg.
PABA	25 mg.
(Para-Aminobenzoic Acid)	
Aspartic Acid	200 mg.
(as Potassium, Magnesium Aspartate)	
DL-Methionine	150 mg.
L-Butamine	150 mg.
*No U.S. Recommended Daily Allowance (U.S. R.D.A.) has been established for this nutrient.	



MUSSEL+

3 FORMULA

MUSSEL + is a unique, totally natural product of the sea. Produced from the edible Perna Canaliculus Mussel, it is a species of shellfish harvested from unpolluted waters. **MUSSEL +** is a concentrated, freeze-dried product, a complete cellular system similar to that of an egg yolk. The Perna Mussel is a food rich in protein, naturally chelated minerals, nucleic acids (RNA), and enzymes. **MUSSEL +** also contains all of the naturally occurring amino acids, including the eight essential to man. **MUSSEL +** is composed of protein muco-polysaccharide complexes, which are known to improve and support the lubricative systems of joints in the body. These complexes aid in the production of hyaluronic acid, important for improving the viscosity of the lubricating synovial fluid which lines the surface of bone joints. **MUSSEL +** gives support to the athlete's shock-absorbing system and thereby decreases wear and tear on the joints. It has been shown to be a cell regenerator and thereby can speed up the healing of bodily injuries. Athletes suffering from sore or injured muscles, torn ligaments or arthritis can definitely benefit from the use of this product.

Suggested use:
Six or more tablets daily as desired.
Each tablet contains 254 mg. of freeze-dried Perna mussel.

FORMULA	1 SPORT 15	2 ENERGY 80	3 MUSSEL+	4 POWER C+	5 PRO-ZYME	6 OMNI 2000
breakfast	1	1	1	—	1	1
lunch	1	1	1	1	1	1
dinner	1	—	1	1	1	1
bed time	—	—	—	1	—	—

The above program is recommended for individuals getting moderate exercise. The athlete under greater physical stress may wish to add to these levels as follows: **FORMULA 1**, add 3-6 tablets; **FORMULA 3**, add 6-10 tablets; **FORMULA 4**, add 2-4 tablets.

Individuals desiring a moderate supplement program may wish to take only **OMNI 2000** and/or **PRO-ZYME**.



COMPARE FORMULAS!

4

FORMULA

POWER C+

POWER C+ is recognized by leading nutritionists as the most advanced formula for a Vitamin C tablet. Each prolonged-release tablet contains 1,000 mg. of Vitamin C, as mixed mineral ascorbates, and, for increased efficiency, potassium citrate, seven mixed citrus bioflavonoids, rutin, and pectin. Ascorbates are the linking up of a mineral with Vitamin C. The body uses Vitamin C in the ascorbate form; thus, it makes sense to formulate it as ascorbates to ensure maximum assimilation in instances where the body may be deficient in minerals. The minerals present in **POWER C+** are a source of needed electrolytes, and also serve as a buffer, eliminating the side effects of acidosis and diarrhea which often accompany high level intake of Vitamin C. The prolonged release **POWER C+** tablet effectively releases Vitamin C over an extended period of time, supplying adequate levels of this incredible metabolite to the body cells at all times, day or night. Vitamin C is essential for the production of adrenalin and other hormones and also has beneficial detoxifying properties. Vitamin C can substantially reduce the time needed for the healing of wounds or injuries; it also steps up energy production and gives a greater sense of mental awareness. Studies with athletes have shown that when bioflavonoids accompany Vitamin C, the effectiveness of the latter is increased by over 50%.

Suggested Use: One tablet with each meal.	Manganese	125 mcg.
	Potassium (Citrate)	60 mg.
	Seven Mixed Bioflavonoids Plus Rutin (Rose Hips, Acerola, Cherry, Orange, Lemon, Grapefruit, Hesperidin)	100 mg.
	*No U.S. Recommended Daily Allowance (U.S. R.D.A.) has been established for this nutrient.	
Each tablet contains:	% U.S. RDA	
Vitamin C (as Mineral Ascorbates Listed)	1000 mg. 1667	
Calcium	40 mg. 4	
Magnesium	40 mg. 10	
Zinc	2.5 mg. 17	

FORMULA

PRO-ZYME

5

The **PRO-ZYME** formula, when taken with each meal, improves digestion and allows more nutrition to be delivered to the body's cells. The proper digestion of food is critical to the optimum performance of any athlete. You are what you eat; but those essential food factors won't be assimilated—taken into the body—if the food is not properly digested. Factors which inhibit efficient secretion of enzymes include physical and mental stress, fatigue and age. **PRO-ZYME** eliminates many problems associated with inadequate digestion such as heartburn, gas, and other stomach upsets. Digestion is the process by which foodstuffs are broken down into smaller components. Proteins, fats, and carbohydrates, for example, are broken into smaller pieces before being assimilated from the G.I. tract into the blood stream. This process of breaking down is accomplished by enzymes which are produced in the body or are present in the food itself. The enzymes in **PRO-ZYME** supplement the body's own enzymes and increase the assimilation of your food; athletes who need to build up body mass and restore muscle density will benefit from **PRO-ZYME**. The **PRO-ZYME** formulation is the most complete enzyme system available on the market today, and contains all the necessary classes of enzymes required for proper digestion of food.

Suggested Use: One tablet with each meal.
Each Tablet Contains:
Pepsin 50 mg.
Bromelain 50 mg.
Ox Bile (Enteric Coated) 30 mg.

Pancreas Substance (Enteric Coated) 200 mg.
Papain (Enteric Coated) 50 mg.
Protease Enzymes (Enteric Coated) 100 mg.

Amylase Enzymes 100 mg.
Lipase Enzymes 25 mg.
Cellulase Enzymes 10 mg.
Betaine HCl 100 mg.

6

FORMULA

OMNI 2000

OMNI 2000 is the first multi-vitamin mineral supplement which fulfills the special needs of athletes for basic supplementation. It represents the foundation of the athlete's nutritional program, providing all the major vital food factors. **OMNI's** broad spectrum, high-potency, multi-vitamin mineral formula supplies all essential vitamins, minerals, and fat metabolizers. **OMNI 2000** is one of the few multi-vitamin products which includes RNA and DMG together, which can significantly contribute to increased energy levels. Also built into the **OMNI 2000** formula is a complete stress B formulation, 400 I.U. of Vitamin E and 1000 mg. of Vitamin C as mineral ascorbates. All the minerals in **OMNI 2000** are naturally chelated for maximum assimilation. The formula of over 35 essential nutrients has been designed to maximize the complex relationships among food factors. **OMNI 2000** is serious, balanced nutrition—a product ahead of its time.

Suggested Use: One tablet with each meal.	(Pyridoxine HCl)	60 mg.	2997	Potassium (Proteinate)	50 mg.
	Vitamin B12	15 mcg.	250	Selenium (Yeast)	30 mcg.
	(Cyanocobalamin)	200 mcg.	67	N,N-Dimethylglycine	40 mg.
	Biotin	100 mcg.	599	Hydrochloride	60 mg.
	Pantothenic Acid	100 mg.	10	RNA (Ribonucleic Acid)	200 mg.
	Calcium (Ascorbate)	50 mg.	5	Lecithin	60 mg.
	Phosphorus (Bonemal)	30 mcg.	20	Choline	60 mg.
	Iodine (Kelp)	10 mcg.	56	Inositol	60 mg.
	Iron (Hydrex)	100 mg.	25	PABA	
	Magnesium	50 mg.	25	(Para-aminobenzoic Acid)	60 mg.
	(Citrate, Ascorbate)	50 mg.	25	Citrus Bioflavonoids	300 mg.
	Copper (Gluconate)	15 mg.	100	Hesperidin	120 mg.
	Zinc (Ascorbate)	30 mcg.	5	Pectin	50 mg.
	Chromium (Yeast)	5 mg.		*No U.S. Recommended daily Allowance (U.S. R.D.A.) has been established for this nutrient.	
	Manganese (Ascorbate)	30 mcg.	40		
	Molybdenum				

1 SPORT 15

_____ btl. 100 tbs.—\$ 8.95 ea. _____
_____ btl. 200 tbs.—\$15.95 ea. _____
_____ btl. 100 tbs. _____
Mint Chewable—\$ 8.95 ea. _____

3 MUSSEL +

_____ btl. 100 tbs.—\$ 9.95 ea. _____
_____ btl. 250 tbs.—\$19.95 ea. _____

5 PRO-ZYME

_____ btl. 90 tbs.—\$11.95 ea. _____

(PLEASE PRINT)

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ORDER FORM

ENERGY 80 2

_____ btl. 60 tbs.—\$ 9.95 ea. _____
_____ btl. 120 tbs.—\$18.40 ea. _____

POWER C+ 4

_____ btl. 90 tbs.—\$10.95 ea. _____

OMNI 2000 6

_____ btl. 90 tbs.—\$16.95 ea. _____

SUBTOTAL _____

SUBTOTAL _____

Add Shipping and Handling \$1.50

Calif. Res. add 6% tax

TOTAL AMOUNT ENCLOSED _____

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WHITTIER, CALIFORNIA 90606

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THE RACE IS ITS OWN REWARD.

There was a time when people didn't run to collect T-shirts. Or race numbers.

When the finish line was drawn in the dirt with a stick. And all the winner collected was a cold beer and a thumbs-up.

That's how this revolution got started. And while it may be time to get runners and races organized, too much organization screws up the whole thing.

Because if you can't stay a little crazy, it's damn hard to remain sane.



Beaverton, Oregon