



National Capital Velo Club

P.O. BOX 14004, BENJAMIN FRANKLIN STATION, WASHINGTON, D. C. 20044

March 1974

The March club meeting will be held Monday, March 11, at 7:30 pm at the Park Police headquarters in East Potomac Park. On the agenda will be the Rock Creek race series - for which a volunteer is still needed to run the race- plans for training rides, and the National Capital Open.

PRESIDENT

Paul Lenz
5509 Alderbrook Ct.
Rockville, Md. 20851
881-3078

VICE-PRESIDENT

Stephan Dolezalek
1812 Drury Lane
Alexandria, Va. 22307
765-3771

ROAD CAPTAIN

Blake Powell
3201 Hewitt Ave. 203
Wheaton, Md. 20906
460-3226

SECRETARY

James 'Cal' Lowell
7879 Patriot Dr.
Annandale, Va. 22003
941-6275

TREASURER

Al Dubbe
6108 Woodmont Rd.
Alexandria, Va. 22307
765-4395

The National Capital Open will be one of the Miller High Life Classic races. The Sr.(Cat. I and II), Jr., and Women's events will be Sectional BAR races. The NCO will include a Cat. III event.

For your information, should you need to contact your state rep., the following are the names and addresses of the Maryland and Virginia state reps:

George Sandruck
1719 Pin Oak Road
Baltimore, Maryland 21234

Gerald Teeuwen
946 Shillelagh Rd.
Chesapeake, Virginia 23023

Franklin Placeres has recently contacted the club regarding the possibility of serving as an instructor for some of the club members. He has 20 years experience in cycling competition and was one of the top cyclists in Uruguay for many years before coming to this country, bringing with him vast knowledge of cycle racing. If you are interested in taking racing lessons from (training under) Franklin, call him at 671-8312.

During March and April, club training rides will be organized at and will take place following the Sunday race. They may leave from the site of the race, so come prepared if you plan to participate. Richard Cahall (937-1343) has a 17½ mile course in Beltsville which he rides in the afternoon at around 4 pm. Contact him if you desire information about this course or his ride. If you use ERG in your water bottles and plan to buy less than 3 cases between now and the end of the season, let's get together and buy it in the most cost effective quantities. Contact your rider rep to set up a group "buy" and save some money.

The club needs 3 2 channel, 5 watt walkie talkies. If you are in a position to obtain them at a reasonable price, contact P. Lenz regarding the specifics of the purchase.

For sale --

1 hoop style 2 bike bumper mount carrier - excellent condition -- \$12. 1 JCI 2 bike bumper mount carrier - fair condition - \$6. Contact P. Stevens at 229-3879.

ALPINE track frame, 22 inch red. Good condition - \$100. Contact Ned Carey at 948-1968.

Borrowed - a red dial type presta pressure gauge borrowed from P. Stevens at the 1st Fort Hunt race. He would like it returned.

Our thanks to Georgetown Cycle Sport, Inc. for sponsoring the Fort Hunt criterium series. The final results of this series are as follows:

Class A

1. Stephan Dolezalek
2. Bob Phillips
3. Paul Duraller
4. Bob Fisher
5. Eric Dubbe
6. Mike Hickey
7. Don Wagner
Charlie Fredrickson
John Reoch
10. Pete Walton
Chris Rose

Class B

1. Joseph Kabriel
2. George Orlov
3. David Hammond
Alan Slaughter
5. Steve Six
6. D. Rosenblat
Gentry Gingle
Mark Rashid
9. Brad Anders
10. David Jacking
Dennis Riegor

Class C

1. Luis Benito
2. Peter Stevens, Jr.
3. Victor Naumann
4. Sean Dwyer
5. Joe Sager
6. Mark Eckelberger
Carl Knoettner
8. Geoffrey Hall
9. Ernie Stalder
10. Andrew Moore

Midgets

1. Matt Dubbe
2. Geoff Collins
3. Kathryn Stevens
4. Clark Cagle
James Lindquist
6. Joanne Rashid

Class D

1. Mark Honaker
2. David Yarber
Reid Cavanagh

If you have not already received one, enclosed you will find a travel program questionnaire. If you are interested in pooling transportation to out of town races, please complete it and return it to R. Sitterly.

Road Captain's Bulletin
Blake Powell

This month we should begin transitioning into specialty training now that we have amassed a base of miles, and as I see it, the gearing should now be slowly increased according to each one's needs and abilities being very careful to avoid overstressing the legs while it is still cold and early in the season. I said that increases should be individual because I'd like to avoid setting down hard rules since each person has their own style of riding. Just keep in mind that it should be an ordered progression leading to acclimation without undo stress, and that races begin in earnest in April.

The specialty training that I will deal with this month will be interval training, but before I begin with that subject I'd like to discuss two others; an overview of training and racing with regard to how training and motivation fit together and aerobic points.

Briefly, racing performance is dependent upon a number of factors; factors which interlock and in essence give a synergistic effect when done correctly. They are three in number, and are subdivided as follows:

Energy Output	Neuromuscular function	Psychological factors
(1) aerobic processes	(1) strength	(1) motivation
(2) anaerobic processes	(2) technique	(2) tactics

The purpose of training is to improve performance in competition. Physical work, in our case riding the bicycle, aids in improving both energy output and neuromuscular functions, but please remember that the efficacy of your training depends a great deal upon motivation. I want to stress this very much. Motivation, or as I see it, the inner mental strength to do work, especially when everything says not to do it, is a primary factor in training and racing. To benefit from training, one has to increase the work load. If you don't, your body will acclimate itself and you won't improve your fitness. Little needs to be said concerning motivation in racing. As for the other factors listed above, we'll consider them in this and following bulletins. With respect to motivation, this is all I'll say about it since it is indeed an inner, personal aspect of racing.

Many of you have perhaps encountered the aerobics programs of Kenneth H. Cooper, M. D., in the past. For those who haven't, let me just say that he devised a point system that allows one to determine the work load that one has just completed, correlating distance covered and the speed used with the oxygen consumption during that period. Oxygen consumption is the key here. With the exception of very heavy workloads lasting two minutes or less, the major energy source for muscular work comes from the oxygen dependent or aerobic processes of the body; those processes occurring in the mitochondria I mentioned last month. Through his research, Cooper has determined that a minimum of 30 points is required per week for a person to maintain a level of good cardiovascular/respiratory fitness. In the case of competitive athletes, he suggests that they maintain a minimum of 100 points per week during the off-season, and he states that some highly competitive athletes obtain 400-500 points per week during the actual season. Essentially, the aerobic point system allows you to see if you have worked hard during training or racing and also to keep track of your work on your aerobic processes weekly. Actual usefulness of the system will depend on your individual use of it in your own record keeping.

The following formulas yield the points that you have achieved for each ride. They were devised by Peter Walton of P.B.C. using Cooper's data, and he has kindly allowed me to give them to you.

Rollers:

$$\left(\frac{\text{average revolutions} - 50}{150} \right) \times \text{minutes} = \text{points}$$

$$\text{Road Work: } \left[\left(\frac{6 \times \text{miles}}{\text{minutes}} \right) - 0.5 \right] \times \text{miles} = \text{points}$$

Note: When the ride exceeds 7 miles of non-stop work, you add the following points to those obtained from the above formula: $\frac{\text{miles} - 3}{2} = \text{points}$

This factor accounts for endurance obtained during long non-stop rides.

For those of you who are curious as to what the points mean in physiological terms, please feel free to come up and ask me about them, or call me.

Interval training is a style of training that uses periods of intense output alternating with rest periods. Basically, this allows one to achieve a level of energy output during the active periods that one would probably have trouble achieving and maintaining for a long period of time because of a number of things including lactic acid build-up and negative motivation (it hurts). Depending upon the length of both the active and recovery periods used one can achieve a number of things, but before I give them let me digress for a bit and give a brief explanation of aerobic versus anaerobic energy production.

With periods of heavy activity lasting two minutes or less, the body must depend upon non-oxygen dependent energy sources. These produce the well known "oxygen debt" that we have all experienced after sprints. You could just about not breathe during a short sprint due to these anaerobic processes, those processes including energy storage in creatine phosphate, and the processes of glycogenolysis, and glycolysis if you want to know the names. The latter two result in the build-up of lactic acid that I mentioned above, and lactic acid causes your muscles to hurt.

Your aerobic power is dependent upon your maximum oxygen uptake. For every liter of oxygen you consume in the aerobic or oxygen dependent processes of your muscles you produce approximately 5000 calories of energy, energy that can be used to power your muscles. Aerobic power is very important in endurance work such as road racing. The man with the higher maximum oxygen uptake has more energy available to him for use in riding. Interval training can be used to improve both aerobic power and anaerobic abilities.

One can develop speed and improve strength by using intervals of short duration, 30 seconds or less, during which time you go at maximum output. Using very short intervals followed by rest periods two to three times as long avoids a large build up of lactic acid.

With intervals of 1-2 minute lengths using high output one overloads the glycolytic system, lactic acid builds up, and it really hurts. A number of these with 2-4 minute rests in between is very stressful and should only be used periodically when an increase in speed and anaerobic capacity is desired.

It would be very difficult to maintain a maximum output for periods exceeding 3 minutes. Actually, here one would not be working at maximum. These could be used in a long training ride to vary the tempo and allow for practice in bridging gaps and the like. Aerobic power is worked on here. I'll deal with this more next month.

As you can see, interval training can be complicated. To use them, begin slowly giving yourself long periods between activity, and as you improve you can shorten the rest periods. As I see it, don't use them every day for they are very stressfull. Vary your program, remembering to increase the load on yourself slowly in progressive intervals of time. Concerning interval training, if you have any questions at all, feel free to call me and ask.

Eastern Cycling Federation Inc.

EASTERN OPEN RACE SCHEDULE

*denotes races NCVC is involved in.

- Sunday March 3 to April 28, Central Park Series, NY state representative.
Sunday March 31 to Sunday April 28, Fairmont Park Series, Pa. state rep.
Saturday April 6, ? Boston Criterium or Sunday April 7th ?
Sunday April 7, Midjet Time Trial, Princeton N.J. CRCofA
Sunday April 14, Intermediate Time Trial, Princeton N.J. CRCofA
Sunday April 21, Junior Time Trial, Princeton N.J. CRCofA
*Sunday April 21 National Capital Open, Sect. BAR, Wash. DC, N.C.V.C.
Sunday April 28 Team Time Trial, Princeton N.J. CRCofA
Saturday May 4th Lime Rock Open, Lime Rock Conn. Conn. Rep.
Saturday May 4, New England Olympic Development, Not Confirmed, NFCC Mass.
Sunday May 5, 50 Mile Memorial Handicap, Central Park New York, CRCA
Sunday May 5, New England Olympic Development, 100 miles NFCC, Mass.
*Sunday May 19, Maryland Road Classic, Columbia Mall Md. Chesapeake Wheelmen.
Sunday May 19, Open Road Race, (not confirmed) I.C.A. N.Y.
Saturday May 25, Princeton Criterium N.J. CRCofA
Sunday May 26, Allentown Criterium, Allentown Pa. Lehigh Wheelmen.
Monday May 27, Somerville Memorial Day Criterium, Somerville N.J. Somerset Wheelmen. Nat, BAR
Sunday June 2, 100 Mile Handicap, Central Park N.Y. German Bicycle Sports Club.
*Sunday June 9, Old Dominion Road Race, Olympic Dev. Quantico Va. N.C.V.C.
Sunday June 9, Road Race, Somerville Area N.J. Somerset Wheelmen.
Sunday June 9, Kissena Cycle Club Road Race, N.Y. K.C.C.
Sunday June 16, Criterium, Cranford N.J. N.J.B.C.
Sunday June 16, Keystone Open, Phila. Pa. PBC Nat. BAR
Sunday June 16, Great Simsbury Open, Simsbury Conn. Conn. Rep. Tosi.
Sunday June 23, Ladies Day Festival, Princeton N.J. CRCofA
June 26 To June 30, State Championships Road And Track.
Thursday July 4, Holiday at Home, Rahway N.J. Nat. BAR
Saturday July 6, Travelers Criterium, Hartford Conn. Rep. Tosi.
Sunday July 7, Art Lonsjo 50 Mile Memorial Fitchburg Mass.
Sunday July 14, Open Races, Nutley N.J. Nutley Bike Club.
Sunday July 14, Siegfried Stern Memorial Track Meet, KCC New York.
Saturday July 20, Criterium, (one class) Walpole Mass.
Sunday July 21, Tour of Middlesex, (2 stages) Middlesex Mass. NFCC.
- July 27 to August 3, NATIONAL ROAD AND TRACK CHAMPIONSHIPS (tracks at Northbrook)
- Sunday August 11, International Road Race???
- Sunday August 11, Basilone Memorial, Raritan N.J. Somerset Wheelmen.
August 14 to August 25 WORLD CYCLING CHAMPIONSHIPS Montreal Canada.
Sunday August 25 Essex County Open, Brookdale Park N.J.
Sunday August 25, Open Grass Track Meet, Princeton N.J. CRCofA
Sunday August 25 New England Road Championships
Monday September 2, Labor Day Open Track Meet, KCC. Track NY.
*Sunday September 8, National Capital Parks Classic, Pock Creek, Wash. D.C. N.C.V.C.
Sunday September 8, Track Meet, Kissena Track, NY, New Jersey Bike Club.
*Sunday September 15, FCF CLUB TEAM TRACK CHAMPIONSHIPS, Kissena Track New York.
Saturday September 21, Mum Festival Open Races, Bristol Conn. Conn. Rep. Tosi.
*Sunday September 22, FCF CLUB TEAM ROAD CHAMPIONSHIPS, Central Park New York.
Sunday September 29, Lake Luzern Fall Festival, New York, CRCA
Sunday September 29 Ardmore Grand Prix, Ardmore Pa. Pa. Rep. Harper.
Sunday October 6, German Bicycle Sports Club Criterium, Smithtown, New York.
Sunday October 13, Open Races, Westbury, Long Island, N.Y. Nassau Wheelmen.
Monday October 14, Columbus Day Marathon Monticello New York.
Sunday November 10, Turkey Day Race Nutley N.J. Nutley Bike Club.
Sunday November 10, Cyclo Cross, Philadelphia Pa. PBC
Sunday November 24, Kennedy Memorial Race Central Park New York. CRCA.

Please Add the following to the Eastern Schedule:

All Sundays in March and April On College grounds in Westbury N.J.? Training series by the Nassau Wheelmen Assoc.

September 1 Limerick Open, Limerick Penna.

NCVC RACING SCHEDULE (CLUB RACES AND CLUB SPONSORED OPEN RACES) **

Sunday February 3, to Sunday February 24, Fort Hunt Criterium Series A, B, C, D and M (open)
Sunday March 3 to Sunday March 31, Individual and Team Time Trials (ind. open, team: club only)

Sunday April 21 National Capital Open, Wash. D.C. Sectional BAR.

Sunday April 28 Rock Creek Series

Sunday May 5, Rock Creek Series

Sunday May 12 Rock Creek Series

Sunday June 9, Old Dominion Road Race, Quantico Va. Olympic Development

June 29 and 30 Md. and Va. STATE ROAD AND TRACK CHAMPIONSHIPS

Sunday September 15 National Capital Parks Classic, Rock Creek Md.

Sunday September 22, 29 Rock Creek Fall Series

Sunday October 6, 13, 20, Rock Creek Fall Series.

Chesapeake Wheelmen Open Race Schedule

Saturday March 16 Columbia Bike Show

Sunday March 17 Columbia Bike Show

Sunday April 7 Maryland Road Series, Oakland Ridge, 10am, Columbia

Sunday April 21 Maryland Road Series, 10am, Lake Montebello, Baltimore.

Sunday April 28 Maryland Road Series, 8am, Jacksonville, Md. Individual Time Trial.

Sunday May 19 Maryland Road Classic, Columbia Mall Md. Sect. BAR

Columbia Wheelmen Schedule

Sunday March 24, 31, Oakland Mills, Columbia, 1pm

Sunday April 7 Oakland Mills, Columbia, 1pm

Sunday June 23, Invitational Road Race

Sunday September 27 Oakland Mills, Columbia, 1pm

Sunday October 6, 13 Oakland Mills, Columbia, Md. 1pm

** Possible Alexandria and Annapolis races are being considered.

NVCG TRANSPORTATION PROGRAM ENROLLMENT QUESTIONNAIRE

NAME _____ ABL # _____ CLASS _____
STREET _____ PHONE _____
CITY _____ ZIP _____

It is understood that plans and situations change during the racing season. Please check all the boxes that may apply anytime during the year if you want to participate in the program.

- I will need rides to out of town races.
- I have a car and will provide rides to races.
How frequently? _____
- My parents (or other) have a car and will provide rides to races.
How frequently? _____
- I have a driver's license and am willing to share driving.
- On occasion I may be willing to loan my vehicle to a responsible driver for the purpose of taking riders to out of town events.

VEHICLE INFORMATION:

Make _____ Model _____ Year _____

Capacity (Including driver): Persons _____ Bikes _____

Estimated cost per mile to operate _____

Estimated miles per gallon on a trip _____

Other information and comments _____

Size of gas tank in car _____

Please return these questionnaires as soon as possible to:

Pam & Roger Sitterly
6409 Livingston Road # 201
Oxon Hill, Maryland 20021

BICYCLE TIME TRIAL SERIES

Sponsored by

NATIONAL CAPITAL VELO CLUB, INC.

National Park Service

INDIVIDUALS: March 3, 10, 17, 24, & 31.

TEAMS (selected NCVC riders only): March 10, 17, 24, & 31.

Held Under Sanction of the Amateur Bicycle League of America, Inc.

TIME AND PLACE: Trials will be held on the George Washington Parkway, starting and ending at Lock 6, one mile north of Chain Bridge on the Maryland side. Registration will begin at 7:45 A. M. each Sunday, with the first rider off the line at 8:30 A. M. The course runs to Carderock and back on the Parkway. Parking is available at Lock 6 and Lock 5.

Registration will close at 8:30 A.M.

CLASSES: ABLA Classes: Seniors, Juniors, Intermediates and Veterans ride ten miles. Midgets ride five miles. Classes are determined by age, regardless of sex. Non ABLA riders may elect to ride either five miles or ten miles with no age classification.

PRIZES: Medals and Certificates will be awarded to the first ten (10) places in Senior and Junior classes; to the first five (5) places in Intermediate and Veteran classes; to the first three (3) places in Midget class. Certificates will be awarded to all other riders for the average of their three best times.

- NOTES:
1. March 3 is all individual time trials.
 2. NCVC members intending to ride on a team must ride March 3 for placement on a team.
 3. Team time trials are a separate NCVC Training Club Event.
 4. Number deposit is forfeited if the number is not returned by the first race of the Spring Rock Creek Series.

REGISTRATION: Rules and detailed instructions are on the reverse side. Entries may be mailed to the address shown on the official form below or turned in at the registration desk the day of the race. All entries must be accompanied by the proper fee. Riders under eighteen (18) years of age MUST have signature of parent or guardian on the entry blank.

OFFICIAL ENTRY BLANK

NATIONAL CAPITAL VELO CLUB, INC.

SPRING TIME TRIAL SERIES

Mail to: Steve Six	<u>ABLA CLASS</u>		<u>ABLA</u>	<u>Non-ABLA</u>
1200 Quaker Lane	SR ___ JR ___	Registration Fee	\$1.00	\$2.00
Alexandria, Virginia 22302	INT ___ VET ___	Int. Trvl. Fund Donation	.25	.25
	MIDGET ___	Refundable No. Deposit	1.00	1.00
	TEAM _____	TOTAL	\$2.25	\$2.25

ABLA Unattached Riders Pay Double.

P NAME _____ AGE _____ BIRTHDATE _____

R _____

I STREET _____ TELEPHONE _____

N _____

T CITY _____ STATE _____ ZIP _____

CLUB _____ ABLA NO. _____ DISTANCE (NON-ABLA ONLY) 5 mi _____ 10 mi _____

In consideration of the acceptance of my entry, I certify that I am entering this event of my own free will and waive any claims against the Amateur Bicycle League of America, Inc., National Capital Velo Club, Inc. or the Nat'l Park Service or any officials thereof for any personal injury or damage to equipment arising out of my participation on any of the following dates: March 3, 10, 17, 24, & 31, 1974.

SIGNATURE _____ Date _____

PARENT OR GUARDIAN _____ Date _____

(if rider is under 18 years of age)

NATIONAL CAPITAL VELO CLUB MEMBERSHIP ROSTER.....MARCH 1974

Anders, Brad- 6704 Tahalla Drive, Alexandria, Va., 22306, 765-7871
 Beach, Dennis- 20421 Greenfield Road, Germantown, Md., 20767, -----
 Bell, Mike- 4901 Southland Ave., #301, Alexandria, Va., 22312, 354-1581
 Benito, Luis C.,- 2801 Quebec St. N.W., Washington D.C., 20008, 362-0274
 Bertocci, Guido- 5010 Barkwood Pl., Rockville, Md., 20853, 460-5628
 Brennan, Eileen- 45 Darnall, 3700 Reervoir Rd., NW, Washington, D.C., 20007, 965-3500-X 526
 Brenner, Sandy- 2205 Martha's Rd., Alexandria, Va., 22307, 765-3129
 Brewer, Parke M.- 7405 Ridgewood Ave., Chevy Chase, Md., 20015, 652-5928
 Bruce, Burton B.- 809 No. Quaker Lane, Alexandria, Va. 22302, 370-2759
 Butler, Michael C.,- 2219 Washington Ave., Apt.201, Silver Spring, Md., 20910, 588-4571
 Cagle, Clarke H.- 114 So. Woodrow St., Arlington, Va., 22204, 892-5993
 Cagle, Thomas G. " " " " "
 Cahall, Richard S.- 4401 Samar St., Beltsville, Md., 20705, 937-1343
 Carey, Ned- 9704 Breckenridge Pl., Gaithersburg, Md., 20760, 948-1968
 Carver, Jay- 2756 Summerfield Rd., Falls Church, Va., 22042, 533-3767
 Collins Jerry- 10504 Montrose Ave., Bethesda, Md., 20014, 493-6214
 Cook, Charles V.- 6726 Melrose Drive, McLean, Va., 22101, 790-0283
 Cottrell, William E.- 1813 Anderson Rd., Falls Church, Va., 22043, 356-3502
 Crank, William D- 5803 Parkway Dr., Laurel, Md., 20810, 752-4067
 Crowley, Peter- 5323 28th St., N.W., Washington D.C., 20015, 362-8953
 Curtis, Steven A.- 13304 Collingwood Terrace, Silver Spring, Md., 20904, 384-7655
 Czapiewski, Peter- 6438 Fairland St., Alexandria, Va., 22312, 354-6103
 Deaton, Joseph E.- 8615 Ox Rd., Fairfax, Va., 22039, 690-1250
 Delavigne, Dorsey H.- 13601 Turnmore Rd., Silver Spring, Md., 20906, 460-1335
 Dolezalek, Christopher - 1812 Drury Lane, Alexandria, Va., 22307, 765-3771
 Dolezalek, Stephen " " " "
 Dubbe, Alfred J.- 6108 Woodmont Rd., Alexandria, Va. 22307, 765-4395
 Dubbe, Erik P. " " " " "
 Dubbe, Matt J. " " " " "
 Dorsey, Ellen H.- 7501 Furnace Branch Rd., Glen Burnie, Md., 21061, 301- 768-4837
 Dwyer, Sean M.,- 5038 Mac Arthur Blvd., Washington D.C., 20016, 244-0448
 Echelberger, Mark- 9004 Burkhardt Dr., Richmond, Va., 23229, (804) 288-2326
 Famiglietti, Brian- 9519 Old Georgetown Rd., Bethesda, Md., 20014, 530-2966
 Fendrick, Peter- 4105 Leland St., Chevy Chase, Md., 20015, 652-5909
 Ferguson, Shannon- Box 3092, Parkfairfax Station, Alexandria, Va., 22303, 960-4565
 Fisher, Bob- 4901 Tuckerman St., Riverdale, Md., 20840, 927-4423
 Flener, Kevin W.- 3314 Ardley Court, Falls Church, Va., 22041, 820-5795
 Foster, Charles W.- 3605 Minnesota Ave., S.E., Washington D.C., 20019, 582-0502
 Frederiksen, Charlie- 3805 Shepard St., Chevy Chase, Md., 20015, 654-5594
 Friis, Mark- 325 Northwest Dr., Silver Spring, Md., 20901, 593-1147
 Gajewski, Ralph R- 300 So. Van Dorn, Apt 105, Alexandria, Va., 22304, 751-4625
 Gingell, Gentry- 5320 Dorset Ave., Chevy Chase, Md., 20015, 652-5316
 Greene, Larry- 5909 Clay St. N.E., Washington D.C. 20019, 396-0035
 Hall, L. Kirk- P.O. Box 8898, Washington D.C., 20003, 543-4717
 Hammond, David- 4020 Calvert St. N.W., Washington D.C. 20007, 333-8289
 Harlan, Bill- 20050 Ballantyne Ct., Grosse Pointe Woods, Mich., 48236
 Harmeling, Stephen J.- 3916 King Arthur Rd., Annandale, Va., 22003, 280-4393
 Hickey, Laurence, B.- 6606 31st. Pl. N.W., Washington D.C. 20015, 363-6956
 Hickey, Michael L. " " " "
 Hobbs, James V.- 10208 Tyburn Terrace, Bethesda, Md., 20014, 530-2190
 Horner, Ward- 7904 Glenbrook Rd., Bethesda, Md., 20014, 654-8491
 Huber, Norman I.- 8739 Carroll Ave., Apt."2", Silver Spring, Md., 20903, 434-9465
 Huber, R. Christopher " " " " "
 Huber, V. Gregory " " " " "
 Inchai, Lersak- 4710 S. 30th St., B-1, Arlington, Va., 22206, 931-8824
 Jacknin, David- 1100 E. Durwood Cres., Richmond, Va., 23229, (804) 285-2792

Jackson, Carol S.- 4700 Argyle Ave., Garrett Park, Md. 20760, 942-5836
 Jacobi, Jonathan- 8100 Cindy Lane, Bethesda, Md. 20034, 365-3169
 Jenkins, Gary K.- 27 Sherman Rd., Wakefield, Mass. 01880, (617) 245-2339
 Kabriel, Joseph- 5330 39th St. N.W., Washington D.C. 20015, 244-7584
 Kaiser, Joseph A. Jr.- 1017 Tracy Drive, Silver Spring, Md. 20904, 622-3612
 Kicherer, Jeffrey J.- 5527 Surrey St., Chevy Chase, Md. 20015, 762-1818
 Klinkon, Philip- 5206 Locust Ave., Bethesda, Md. 20014, 530-8151
 Knoettner, Carl E.- 333 S. Glebe Rd. #210, Arlington, Va. 22204, 892-2541
 Koenig, George- 1845 Irving St. N.W., Washington D.C. 20010, 234-9080
 Kuchler, Leopold- P.O. Box 26, Annapolis, Md. 21404

Laan, Remmert Jan- 8601 Beech Tree Rd., Bethesda, Md. 20034, 469-7488
 Lenz, Paul- 5509 Alderbrook Ct., Rockville, Md. 20851, 881-3078
 Lima, Charles, S.- 2309 N. 11th St. Apt. 202, Arlington, Va. 22201, 243-9557
 Lowell, James R.- 7879 Patriot Dr., Annandale, Va., 22003, 941-6275
 McConnell, Dudley G.- 926 Clintwood Dr., Silver Spring, Md. 20902, 649-2131
 McCormick, Kenneth J.- 2802 Hathaway Terr., Silver Spring, Md. 20906, 942-5205
 McIntyre, Peter- 7 Primrose St., Chevy Chase, Md. 20015, 656-7226
 Medin, David- 10912 Candlelight Lane, Potomac, Md. 20854, 298-5317
 Meyer, Robert C.- 2303 Hewitt Ave., #102, Wheaton, Md. 20906, 871-6488
 Miles, Barbara, L.- 940 25th St. N.W., Washington, DC. 20037, 338-7180
 Moore, Andrew R.- 3616 De Pauw Pl., College Park, Md. 20740, 935-5785
 Morris, Marie B.- 400 5th ST. N.E., Apt 4, Washington D.C., 20002, 543-0435
 Morris, Roy R. " " " " " "

Mrozinski, Andy- 5214 Oakland Rd., Chevy Chase, Md., 20015, OL 6 5942
 Murad, Michael- 12229 Major Dr., Germantown, Md. 20767, 972-3985
 Naumann, Victor R.- 4550 MacArthur Blvd. N.W., Washington D.C. 20007, 333-1768
 Orlov, George M.- 112 So. Pitt St., Alexandria, Va. 22314, 549-4721
 Pabian, Frank- 1639 Westwind Way, McLean, Va., 22101, 893-7689
 Pearlman, Jeffrey E.- 6705 Brigadoon Dr., Bethesda, Md. 20034, 229-6238
 Pearson, Paul W.- 5709 Greenlawn Dr., Bethesda, Md., 20014, 530-0536
 Pease, Sterling D.- 3700 9th St., S/E. #907, Washington D.C. 20032, 561-0542
 Peterson, Kent- 8517 Rosewood Dr., Bethesda, Md. 20014, 530-4494
 Pickett, Allen R.- 8516 Oliver St., Hyattsville, Md. 20784, 577-0677
 Powell, Blake "L"- 3201 Hewitt Ave. Apt. 203, Wheaton, Md. 20906, 460-3226
 Rashid, Stephen- 5804 Tanglewood, Bethesda, Md. 20034, 229-0346
 Rawlings, Michael R- 11916 Clarodge Rd., Silver Spring, Md. 20902, 933-6455
 Reeves, Duke C.- 3501 Fullerton St., Beltsville, Md. 20705, 572-7256
 Reiss, Barry- 5276 Nebraska Ave N.W., Washington D.C. 20015, 966-0614
 Reoch, John J.- 17 "D" St. S.E., Washington D.C. 20003, 546-8639
 Reoch, Mary Jane " " " " " "

Reynolds, Joel W.- 5 Delford Ave., Silver Spring, Md. 20904, 622-0674
 Richards, J. Terry- 9923 Thornwood Rd., Kensington, Md. 20795, 946-2899
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IT stresses the anaerobic systems and one can theoretically obtain greater amounts of creatine phosphate and the enzymes used in glycolysis. According to one source (Astrand, 1970, P. 388-389), by using intervals of 10 to 15 seconds of intense effort followed by rest periods of at least a few minutes one could possibly affect higher concentrations of creatine phosphate. He also states that intervals of maximum effort lasting 1 minute followed by rest periods of 4 to 5 minutes could train the glycolysis system. The first type of intervals mentioned (10 to 15 seconds) would train creatine phosphate because glycolysis would not be that accelerated during that short period since the oxygen in myoglobin would keep the TCA cycle going, and the excess energy requirement could be met by creatine phosphate. The second type would be stressing the glycolysis system since the oxygen in myoglobin and the creatine phosphate would both be used up. This type would also serve to acclimate you to higher levels of lactic acid in the blood. In other words, you would be somewhat used to the pain.

LSD stresses the aerobic systems. As a note of explanation, LSD would be riding long distances at such a pace that you do not engage the anaerobic systems, or a "conversational" pace. Why it stresses the aerobic systems is obvious-- you put a continuous demand for energy on the body while giving the body all of the oxygen it needs to supply that energy. There is no doubt about it, for overall endurance you need this type of training in your program, but please note that to achieve the maximal benefit from this training you have to use it over a number of years. Over those years you will slowly get a bigger heart that will move more blood at each contraction than normal, your blood vessels will become more numerous getting more oxygen to the tissues, you'll get an increase in hemoglobin and myoglobin, and many other things, all serving to give you a greater ability to get oxygen to your tissues for use. In other words, your maximal oxygen uptake by your body goes up.

Now, how to use the two types of training. The articles from Bike World advocate almost an exclusive use of LSD, but here I disagree. Think about it for a minute. In a race do you ride at a constant pace? No, and exclusive LSD in my opinion will not prepare you physically or mentally to handle breakaways, bridging gaps, and the like. So, I feel that both systems should be used. Keep in mind that IT is extremely stressful, so I don't think it should be your exclusive type of training. Indeed, the reason that I suggested that we begin to use it now instead of some time ago is because of that stress. I would vary my training program, perhaps using one day of IT during the week plus one day of a long slow ride approaching 100 miles. On the other days I'd concentrate on working on technique using a submaximal pace but one that was stressful. Here you probably will experience anaerobic respiration on hills, while pulling, and such, but don't do it with such frequency that you are interval training. Speed work, such as motor pacing, should also be introduced and used. As for sprinting, we'll discuss that and speed work next time.

I was asked to give some sources for doing your own reading on training, so here are a few:

Astrand, Per-Olof, M.D., and Kaare Rodahl, M.D. Textbook of Work Physiology. New York: McGraw Hill Book Company, 1970.--This is a very good book, but it is indeed a textbook so expect to do some slow reading.

Thomas, Vaughan. Science and Sport (A Sports Illustrated Book). Boston: Little, Brown and Co., 1970.--Written for the layman, this would give you a good introduction into exercise physiology.

Fitness for Living--a small magazine published every other month which seems to have a great deal of good information on many kinds of sports.

Bike World, Bicycling!, Cycle News, Competitive Cycling should all be looked at for you may find things on training, but most importantly you'll find many things on racing.

April 1974

Road Captain's Bulletin
Blake Powell

As of this month one could consider that the season has actually begun, so the full range of gears should now be in use, but please remember that constant use of very large gears could result in your spin going down because your legs tighten up. In order to counteract that your training program should include some work, distance and/or intervals in the smaller gears, perhaps mid to low 70's. Again I must stress that since each of you has different goals and capabilities you must design your own training program, and these short articles have been written and will continue to be written in order to give you some guidelines toward program design. If you have any questions concerning your program, please feel free to call me and we'll discuss it.

I introduced interval training last month, and I would like to use the rest of this article to discuss the relative merits of interval training (IT) and another type of training, long slow distance (LSD). This discussion will be in reference to the articles about LSD and endurance training in the February 1974 issue of Bike World.

As I have pointed out in previous articles, there are two processes for energy supply used by the body, anaerobic (without oxygen) and aerobic (with oxygen). The two are related; in fact one goes through the processes of anaerobic energy supply reactions (glycolysis) in order to break down a molecule of glucose into the compound that enters the aerobic energy supply reactions (TCA cycle and the cytochrome system). Oxygen is used in the cytochrome system, the series of reactions in which, by the use of certain pigments and enzyme systems, oxidative phosphorylation occurs, and one gets ATP, the primary energy carrier of the body. This ATP fuels muscular contraction by losing one of its phosphorous atoms with a resultant release in energy. If one does work at such an intensity that ATP is very rapidly used up, so rapidly that the amount of oxygen reaching the muscle cells for use in oxidative phosphorylation in the cytochrome system is inadequate for ATP replacement, one then is exercising anaerobically and the energy comes from glycolysis with a resultant sharp rise in glucose consumption. Further, in anaerobic respiration energy can also be supplied by two other things. First, a storage molecule in muscle called myoglobin stores oxygen so that the beginning of anaerobic respiration, the energy supply actually proceeds aerobically until that oxygen is used up. Secondly, there is an energy storage molecule in muscle called creatine phosphate which can donate its phosphate to ADP (ATP with one less phosphorous) thus making more ATP. When you use those two things up glycolysis goes into full swing and the compound that usually enters the TCA cycle can't because the cycle is shut down due to lack of oxygen. That compound, pyruvic acid, is then changed to lactic acid. You begin to hurt.

Assuming that you got through that short review, let's see what training does to help. To begin with, please remember that the body is a remarkably adaptive system, and if you place a certain kind of stress upon it frequently it will eventually respond to that stress trying to reach a normal status once again through changes. In our case the stress is training, and our bodies adapt over periods of time to the demands of training thus allowing us to race. Interval training (IT) places stress upon the anaerobic systems mainly while long slow distance (LSD) stresses the aerobic systems. In both cases the processes become more efficient through training.