



endurance NEWS

A Newsletter for Endurance Athletes

Issue 33

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TIPS FOR THE SELF-COACHED by Jim Bruskwitz

January kicks off the training season for many multi-sport enthusiasts. There are many good reasons for beginning a training program at this time of year if you want to really enjoy the challenges that multi-sport events offer the novice or veteran. I won't try to convince you that now is the time to start your training, I'll assume that you are aware of this fact. I do want to identify some important organizational aspects of your training that can make a huge difference in your level of achievement in multi-sport.

Consistency is the cornerstone of any successful training program. Much of your planning should be concerned with the variables that will help you maintain the training consistency that solid performances demand. Consider your daily schedule with the times that you've set

aside for training, your current level of fitness, the kind of training that you have subscribed to in the past, your past and current performance levels, your planned competitive events, and your goals.

In many respects, you should write a time management program for yourself. If training consistency is vital to your success, you need to determine what training schedule will realistically fit with all your other commitments. Note the times available that you can and want to devote to training, not all your free time during which you could probably train. Set yourself up with a program that allows you to complete the planned workouts. If you miss planned workouts, you'll feel bad about your efforts. A

(see Self-Coaching on page 3)

APPESTAT What's in it, how it works, and guidelines for successful weight loss. by Steve Born

Many of the ads you see on TV for the glut of products available make outrageous and perhaps unrealistic promises when it comes to what one can expect from a diet supplement. Additionally, too many of the products available rely on stimulants, which can have undesirable side effects. Finally, there is a solution to this confusion and these concerns. Along with your commitment to the adherence of our instructions and guidelines, APPESTAT is THE way to suppress appetite, increase carbohydrate metabolism, reduce food intake, body fat accumulation, and weight gain without the use of harmful stimulants.

Attaining success in weight loss is not always an easy proposition and requires consistent adherence to the guidelines

provided below. APPESTAT is a comprehensive formula incorporating the finest quality ingredients that will, with your commitment and adherence to our guidelines, help keep you at your optimal weight all year round and especially during the off season.

Each of the ingredients in APPESTAT are formulated to synergistically (work together) to:

- 1.) effect rapid access to carbohydrate stores (The nutrients in this product are all involved in the productive metabolism of carbohydrates)
- 2.) simultaneously mobilize fatty acids for increasing the rate of fat metabolism
- 3.) reduce appetite cravings without relying on stimulants

(see Appestat on page 5)

A Personal Note



from Brian Frank

Welcome to the 33rd issue of Endurance News and the 15th anniversary of E-CAPS! On one hand, it seems like only yesterday that I was filling two or three orders a day with my wife at our kitchen table in San Francisco. On the other hand, it seems like it was a lifetime, no two, ago because so much has happened in my personal life and in the life of the business, since those humble beginnings in the summer of 1987. Either way I look at it, it's been a

great ride. Thank you all for coming along.

The greatest ongoing source of satisfaction for me over the past 15 years is hearing from thousands of athletes like you that I have helped to be more successful and reap more enjoyment from athletic endeavors. So, I tip my hat to each of you and say a heartfelt "thank you" for giving me the opportunity to do something that I enjoy so much and call it a job.

2001 was another ground breaking year for us. Because of your loyal support, sharing the good news about our products with your friends and fellow competitors and a little marketing savvy on our part, sales increased by almost 50% compared to 2000. As I did at this time last year, I say this not to boast, but to assure you that the company is financially strong, healthy and in a position to continue serving you in 2002 and beyond as well or better than we ever have before.

Speaking of which, we have many improvements and new products planned
(see Welcome on page 3)

NEW HAMMER GEL FLASK & WATER BOTTLE POLICIES

Due to increased costs, we will no longer be able to give out free Hammer Gel flasks upon demand. If you are purchasing Hammer Gel and do not have a flask then of course, we will gladly provide them. But we do keep track of how many flasks a customer has acquired over the course of time and if it's greater than three or four, we can no longer provide free ones. If you do want or need additional flasks we will be happy to provide them for \$1.00 each.

We certainly want you to have a sufficient amount of gel flasks for using Hammer Gel but we do have to set a reasonable limit for free ones. At retail prices these flasks can cost up to three times as much

so we want to provide any extras for \$1.00, a lot less than what you would pay for them. As you know, these flasks are reusable over and over again and they have a good "life span!"

This new policy is also true for water bottles. Because we do not expect you to pay full price for a water bottle with our logo on it, we offer these high quality wide mouth Specialized bottles for a measly \$2.00 each, far, far less than what retailers sell them for. You can purchase as many as you want or need at this excellent price but we will no longer be able to provide them free of charge.



We appreciate your business and thank you for your understanding!

Mission Statement

The objective of Endurance News is to provide you, the serious endurance athlete, with a valuable resource that you will find to be informative, educational, thought provoking and helpful in your ongoing pursuit of optimum performance and health.

Endurance News features insightful articles on diet, nutrition, training and other topics of interest for endurance athletes — written by myself as well as professional and elite amateur athletes, and other experts in the area of nutrition and exercise. In addition, Endurance News will include articles highlighting new and existing E-Caps products and how to get the maximum benefits from them.

In reading this and future issues, please remember that the views expressed in this publication will always be biased in favor of a healthy diet, hard training that emphasizes quality over quantity, and prudent supplementation to improve health and performance. But above all, we at Endurance News believe there are no short cuts, and success can only come from hard work.

Brian Frank
E-Caps Co-Founder

Legal disclaimer: The contents of Endurance News are not intended to provide medical advice to individuals. For medical advice, please consult a licensed health care specialist.

Back issues of Endurance News are available online. Point your browser to www.e-caps.com/oncall/enews.cfm

(Self-coaching from page 1)

planned program that over-challenges you is a prescription for a program that won't work. You don't train to feel bad. Instead set yourself up to win. Err on the side of a program that is easy to maintain. You'll feel great about your accomplishments. You'll be drawn toward training because it helps you feel good.

Once you've established realistic training times, you'll need to know what kind of workouts make sense at this time of year. The workouts should be low intensity (more on this below). Average your training volumes in each sport (i.e. repeats, length of overdistance workouts etc.) over the past three weeks. Write workouts at, not above, your three week volume averages during your planned training times for a week. Evenly distribute the workouts between the different sports throughout the week. If you haven't been training at all in the past few weeks, be conservative. Pick training volumes at low intensities that you are sure you can handle. You'll likely be challenged not by any single workout, but by the sum total of your workouts. Adjust the order, the volume and the intensity if the mix of workouts leaves you dragging. Your goal here is to survive a week of training without missing, without killing yourself, and with the realization that your planned schedule can be successfully adhered to week after

week. This is the consistency upon which you can build higher volume and intensity workouts.

Now that you have a starting point, you'll need to determine where all this will lead you. Start with a dream. Challenge yourself, even step out on a limb a bit, but don't pick a goal that doesn't have a chance of achievement. Run your goal by someone (not a pessimist) and see how the idea sits with you over time. Commit the goal to paper so that you force yourself to organize your thoughts.

When will you achieve your goals? Now you can work backwards. With a starting point and an end point, you'll have the amount of time available to prepare for the goal. If you'll be prepared to achieve your goal by a certain date, where will you have to be in six weeks, three months, and 16 weeks from now in order to insure that you'll be prepared to achieve your goal? Working backward from these points in time will give you a great idea of how fast you must progress in order to be prepared when the time comes.

Keep your training intensities low at this time of year. You have enough time, if you start now, to build a solid aerobic base. Three months working out at and mostly below your aerobic threshold is

appropriate. If you wear a heart rate (HR) monitor, you can get somewhat fancy with training zones (training at different HR's). Even the very best can get the kind of training intensity they need at this time of year by keeping the HR at and mainly below 90% of their HR max for a given sport. For some who are not as well-trained, much lower percentages of max will provide all the training intensity necessary for this time of year. If you don't use a HR monitor, try the following approach to set a max training intensity for this time of year. If you can't converse easily because your breathing is too labored, you're training too hard! After months of gradual increases in training volume at these intensities, we'll talk about increasing the intensity of your training.

Plan now for a consistent and productive training season. Training with a well thought out plan can be a very enjoyable and rewarding experience. Take the first step, put your program on paper. As your own coach, be willing to change your program to better meet your needs at a moments notice. Have some fun. See you out there.

Jim Bruskewitz is a web-based coach of endurance athletes from the beginner to the elite. He is an Associate Lecturer in the Department of Kinesiology at the University of Wisconsin-Madison.

(Welcome from page 2)

for 2002. We will be combining the E-CAPS and Hammer Nutrition web sites into one new site with vastly improved navigation, usability, content and further refinement to our shopping cart and shipping information. We also have a number of new products slated for introduction this year in both the E-CAPS and Hammer Nutrition product lines. I won't go into detail here, but Steve, Dr. Bill and I think we have some real winners for you. Be watching your mailbox for announcements of the new products.

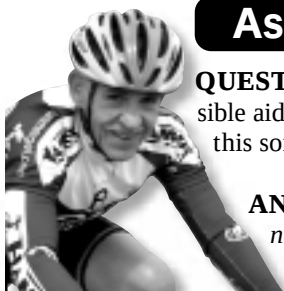
I hope you have a prosperous, healthy and athletically fulfilling 2002!



WHO GETS ENDURANCE NEWS?

Many customers have asked how we determine who receives Endurance News so we thought we'd explain it to everyone. We only send this newsletter out to customers who have placed an order within the past six months. While we enjoy sharing the information contained herein with our customers, with over 32,000 in our database we cannot send the newsletter out to everyone who has ever ordered from us, let alone athletes who have never ordered before. It is simply cost prohibitive to send it to everyone.

We have updated the formatting of the newsletter and switched to a white paper to make it easier for you and to encourage you to photocopy it to pass along to your friends. We have considered offering the publication on a subscription basis but are not yet ready to make that jump. So, in the mean time, the only way to make sure that you don't miss an issue of Endurance News is to order something from us at least once every six months. Of course you can also just go to our web site and read the issues as they are posted in the Endurance Library.



Ask Dr. Bill

QUESTION: More and more I see ribose being suggested as a possible aid for endurance athletes. What studies have been done, and is this something I should consider using?

ANSWER: Here is a study regarding ribose, which suggests that it is not the ergogenic aid it was originally believed to be:

RIBOSE DID NOT AFFECT SUBSEQUENT MUSCLE FORCE PRODUCTION POST-EXERCISE OR BENEFICIALLY IMPACT MUSCLE ATP RECOVERY
The influence of RIBOSE supplementation on skeletal muscle adenine salvage rates during recovery from intense contractions and subsequent muscle performance was evaluated using an adult rat perfused hindquarter preparation. Three minutes of tetanic contractions (60 tetani/min) decreased ATP content in the calf muscles by ~50% and produced an equimolar increase in IMP. Effective recovery of muscle ATP 1 hr after contractions was due to reanimation of IMP via the purine nucleotide cycle and was complete in the red gastrocnemius but incomplete in the white gastrocnemius muscle section. Adenine salvage rates in recovering muscle averaged 45, 49, and 30 nmol · h⁻¹ · g⁻¹ avg for plantaris, red gastrocnemius, and white gastrocnemius muscle, respectively, which were not different from values in corresponding non-stimulated muscle sections. Adenine salvage rates increased five- to sevenfold by perfusion with ~4 mM ribose 212, 192, and 215 nmol · h⁻¹ · g⁻¹ avg in resting muscle sections, respectively). These high rates were sustained in recovering muscle, except for a small (~20%) but significant decrease in the white gastrocnemius muscle. **RIBOSE SUPPLEMENTATION DID NOT AFFECT SUBSEQUENT MUSCLE FORCE PRODUCTION AFTER 60 MINUTES OF RECOVERY.** These data indicate that adenine salvage rates were essentially UNALTERED during recovery from intense contractions.[1] AND,... NO EFFECTS OF ORAL RIBOSE SUPPLEMENTATION ON REPEATED MAXIMAL EXERCISE AND DE NOVO ATP RESYNTHESIS IS REPORTED.

A double-blind randomized study was performed to evaluate the effect of oral ribose supplementation on repeated maximal exercise and ATP recovery after intermittent maximal muscle contractions. Muscle power output was measured during dynamic knee extensions with the right leg on an isokinetic dynamometer before (pre-test) and after (post-test) a 6-day training period in conjunction with ribose (R, 4 doses/day at 4 g/dose, n = 10) or placebo (P, n = 9) intake.

The exercise protocol consisted of two bouts (A and B) of maximal contractions, separated by 15 s of rest. Bouts A and B consisted of 15 series of 12 contractions each, separated by a 60-min rest period. During the training period, the subjects performed the same exercise protocol twice per day, with 3-5 h of rest between exercise sessions. Blood samples were collected before and after bouts A and B and 24 h after bout B. Knee-extension power outputs were ~10% higher in the post-test than in the pre-test but were similar between P and R for all contraction series. The exercise increased blood lactate and plasma ammonia concentrations, with no significant differences between P and R at any time. After a 6-wk washout period, in a subgroup of subjects (n = 8), needle-biopsy samples were taken from the vastus lateralis before, immediately after, and 24 h after an exercise bout similar to the pre-test. ATP and total adenine nucleotide content were decreased by ~25 and 20% immediately after and 24 h after exercise in P and R. **ORAL RIBOSE SUPPLEMENTATION WITH 4-G DOSES FOUR TIMES A DAY DOES NOT BENEFICIALLY IMPACT ON POST-EXERCISE MUSCLE ATP RECOVERY AND MAXIMAL INTERMITTENT EXERCISE PERFORMANCE.** [2, 3]

REFERENCES

- [1]-J Appl Physiol 2001; 91 1775-1781.
- [2]-J Appl Physiol 2001; 91 2275-2281.
- [3]-Article #10 posted October 30, 2001 in J.O.E. [THE JOURNAL OF ENDURANCE: 2001: # [22]

Anaerobic Training In The Winter?

by Nate Llerandi



Usually the idea is to do your LSD training in the winter, build up your hours, and then gradually add intervals to the mix as racing season approaches. Seems to make sense - build your aerobic foundation, then add the building blocks of speed and interval work so you're sharp for racing.

However, for those of you who concentrate on Ironman, RAAM, marathons, etc., I contend that this logic is faulty.

For ultra-endurance athletes, winter should be used to increase your speed, lactate threshold and power. You do this by keeping your hours down and the intensity up. Then, come the spring - at least 12 weeks out from your big event - it's time to start increasing your hours and decreasing the overall intensity of your weekly routine.

In this case, interval work is the foundation for your success. The rule of thumb is that if you train at a given intensity level, then progress is made at that intensity level and every intensity level below it. If you do your intervals at 90-95% of Max HR, then you are also improving your performance at every HR zone beneath that.

Don't get me wrong here. I'm not saying that you can train for a 5k and have your best marathon. You still need to do your ultra-distance training. Simply, you save that training for the final 12-20 week push before your big event. Work on making yourself fast this winter and early spring. Then gradually transition over to your normal ultra-distance routine.

You'll be surprised at how quickly you adapt back to the mega long training days. AND, the added perk will be that you'll be able to cover the ultra-distances more quickly once race day dawns.

Happy Training!

Nate Llerandi is a former national class swimmer/world class triathlete who, after a 5-year retirement from the sport, is getting back into it. He has been coaching since 1990 and creates programs for athletes of all sports and ability levels.

(Appestat from page 1)

DOSAGE INSTRUCTIONS:

Take 2 APPESTAT capsules 60 minutes before lunch. Take 2 APPESTAT capsules 60 minutes before dinner. Use in a cycle of 3 weeks ON with one week OFF before starting another 3-week cycle.

DIETARY INSTRUCTIONS:

It has been clinically demonstrated that weight loss exceeding 2-5 pounds per month results in losing more lean muscle mass than body fat. In order to lose the most body fat and the least muscle mass, we strongly encourage you to lose the weight slowly, limiting your weight loss to 5 pounds per month.

17 CHARACTERISTICS OF AN EFFECTIVE WEIGHT LOSS PLAN:

1. Gradually reduce current carbohydrate intake so that it can eventually be down to as much as 50% less than what you were normally consuming on a daily basis.
2. Increase raw food vegetable and fruit intake by as much as 25%.
3. Drink a minimum of 10 x 8-ounce glasses of water per day [choose either steam distilled or bottled water that is "chlorine and fluoride free"].
4. Cease eating after 7:00 PM.
5. Gradually reduce animal and dairy byproducts so they are consumed down to as low as once or twice per week.
6. Increase exercise activity. Consistent

exercise at or below 75% VO2 Max Heart Rate is especially beneficial, but ALL EXERCISE COUNTS!

7. PERIODIC Short-term weight loss of 2-5 pounds weight loss in 20 consecutive days, followed by seven days NO calorie restriction before repeating a 2nd 20-day protocol.

8. Recommend no more than 1 pound weight loss each week.

9. Do not go below 1,500 calories per day.

10. Refer to the Food Guide Asian or Mediterranean Pyramid and Dietary Guidelines.

11. Focus on limiting fat and processed food intake rather than calories.

12. Encourage 30 minutes minimum exercise per day.

13. Include a variety of nutritionally balanced foods.

14. Minimize hunger, no-starve periods.

15. Encourage setting realistic weight loss goals and making slow, moderate changes.

16. Precedes an established lifelong "Lifestyle" protocol, balancing caloric intake with expense.

17. Remove man-made fats [TFA-Trans Fatty Acids-also known as partially or completely hydrogenated vegetable fats]; found in almost all processed baked goods.

The closer you come to adhering to these guidelines the greater success you will have. As always, if you have any questions once you begin using this product, we are here to help.

INGREDIENTS:

5-HYDROXYTRYPTOPHAN (5-HTP), is a plant-based precursor of serotonin. In addition to potentially enhancing the quality of sleep and growth hormone release, 5-HTP aids in reducing sugar cravings.

ZINC (the extremely bioavailable Monomethionine form) is an essential part of approximately 300 different bodily functions including carbohydrate metabolism. Low zinc levels, common in high carbohydrate diets, can also reduce the athlete's ability to utilize oxygen and generate energy during exercise.

IODINE is needed for the synthesis of one of the thyroid hormones known as thyroxine that is involved in regulating metabolic rate.

CHROMIUM POLYNICOTINATE is a hormone-like compound, critically involved in insulin production. It is an essential nutrient for athletes and for weight loss as it is necessary for energy production and for the synthesis of glucose, fatty acids, and amino acids.

HYDROXYCITRIC ACID (HCA) This active ingredient of the Garcinia Cambogia fruit safely inhibits an enzyme called citrate lyase, which is used in the conversion of carbohydrates into fat. It also gently suppresses appetite and reduces food intake.

YOU'RE NOT GETTING OLDER...YOU'RE GETTING FASTER!

A very belated, but no less sincere congratulations to long time E-CAPS/HAMMER NUTRITION athletes Peter Pop and Jim Pitre!

Earlier in the summer (as noted in EN #32) the two teamed up and finished third in the Race Across America (RAAM) two-person team division in a time of 7 days, 29 hours, 57 minutes. It bears repeating that the duos combined age was several decades more than the combined age of any other team!

This past October, both Peter and Jim competed in the Furnace Creek 508, one

of the most difficult ultra cycling races in the world. This time however, they chose to ride solo... with no less outstanding results. Peter, now 52, won the 50+ division by over 6 hours (!) in a time of 35:32:15, which was good for 7th place OVERALL in the men's division!

Jim, 61, won the 60+ division and crushed his existing course record, with a new standard of 37:55:15, a record that may very well stand for a long, long time. Congratulations again to Peter and Jim...



Peter Pop

Jim Pitre

GREG WILSON / MT. EVEREST UPDATE

by Steve Born

Way back in Endurance News #30, I mentioned that a friend of mine, Greg Wilson, was currently attempting to reach the summit of Mt. Everest for the third or fourth time. Well, Greg's a pretty busy guy, is rarely home and is often hard to reach but I did hear back from him a couple times after his successful summit of the world's highest peak. He's obviously a tremendous athlete but also quite humble as well. He didn't elaborate too much on his epic adventure but he did send me the following emails, which I thought you'd enjoy. Greg, who lives in Hailey, Idaho, is the owner of and head guide for Adventures in the Andes, a trekking company that specializes in guided treks and climbing in South America, particularly on Aconcagua.

Hi Steve,

I'm finally making some progress on my post-Everest "to do" list. I have a photo or two for you from the Everest trip. Please give me an address and I'll send them your way.

Take care-
Greg

Hi Steve-

You'll find enclosed a couple of images from the Everest trip. I didn't do a lot of photog-



Greg Wilson places a prayer flag on Everest in memory of a friend.



raphy this year. I simply focused on climbing the mountain and refused to let anything get in my way (but of course I now wish I had more photos of the trip since it was successful).

Sorry I won't see you during the Boulder Mountain Tour [Nordic ski race]... I'll be on Aconcauga (for the twentieth time), but have a great race

and, in the meantime, enjoy the training.

All the best,
Greg

Hi Steve,
I'd like to say thanks, once again, for the

help. Summit day this year was 19 hours round trip and there's no doubt in my mind that the Sustained Energy/Hammer Gel cocktail contributed not only to my success, but also contributed to my ability to climb (and guide) the mountain safely and in good style. There's no sag wagon on Everest to pick you up if you drop...it's all up to you. Returning from the summit this year with my client, we were the only two guys on the upper mountain. We were alone and if we made a mistake it was very unlikely that anyone would be able to come help us off the mountain. The weather was unstable.

Heavy snowdrifts covered our tracks and made for some tough going. It took us 13 hours to reach the top. Some folks are under the impression that once you reach the top you can simply turn around and coast down the mountain as if on a bicycle. Nothing could be further from the truth. It takes a great deal of strength and concentration to

get down off the mountain safely...it took us 6 hours to get down, which, of course, was coming right on the heels of the climb up the mountain of 13 hours...in a nutshell the ability to focus and keep going is

paramount. It's not just a matter of reaching the finish line; it is a matter of life and death. I could go on, but I don't want to bend your ear too far. Just let me say thanks!

I hope this finds you doing well and enjoying the fall.

Greg

**Congratulations Greg on a
TREMENDOUS
accomplishment!!!**

- from the staff at E-Caps
& Hammer Nutrition

...there's no doubt in my mind that the Sustained Energy/Hammer Gel cocktail contributed not only to my success, but also contributed to my ability to climb...

ATHLETE SPOTLIGHT — Shonny Vanlandingham

by Steve Born



Our interview this issue is with Shonny Vanlandingham, from Pagosa Springs, Colorado. Shonny's a pro mountain bike racer with the SoBe/Cannondale Team.

Q: Shonny, I know that you're a full-time pro athlete but what other activities do you like to do?

A: *I am a full time pro athlete thanks to all of my sponsors. Other activities that I like to do are coaching basketball, snowboarding, skate skiing, snow shoeing, and making jewelry.*

Q: What convinced you to devote your attention solely to mountain biking?

A: *Well, after a couple years into racing, I realized that I had the potential to be a top pro and that I needed to make the time to develop. So I decided to devote my energy to becoming the best I could be.*

Q: 2001 seemed to be a great year for you. Can you briefly describe your season and how things progressed towards your top finish at the World's?

A: *I was the 2nd ranked American all year in the Short Track and Cross-Country events in our National series (NORBA). This qualified me for the World Championships so I represented the USA on Sep 16th. Since the race was held just after the events of Sep. 11th I felt even more proud to be there for the US. The crowds were unbelievably supportive, which provided extra motivation. I was racing in 6th place until the last 20 minutes when I dropped to 9th. I was still pleased with 9th being that the top ten were within 3 minutes of each other and it was my first World Championships.*

Q: Speaking of the World's, can you give us some info about the races, where they were, the quality of the field, etc?

A: *This year's World Championships were in Vail, CO, which makes for a high altitude*

cross-country event with a lot of climbing.

Q: What is your favorite training ride? Where is it? How long is it? What makes it so good?

A: *My favorite training ride has to be Treasure Mountain Trail in Pagosa Springs, my hometown. It can be as long as 5 hours or you can shuttle the climb to make it shorter. If you start from the base of Wolf Creek Pass at 7,300 ft. you can ride the road up to where you turn off onto a dirt road and continue to climb to 11,000 ft. After the 3hr climb you reach the trailhead and begin the 3000+ ft. descent. It's one of the most fun descents that I've found with a lot of roots and rocks and fast flowing sections. When the trail reaches the bottom you get this beautiful rolling ride along the East Fork of the San Juan River. Then it's time to eat!*

Q: Which is your favorite race and why?

A: *I would say that my favorite race is Big Bear, CA, because it is usually the first National race of the season and it's very exciting to see what improvements you have made in the winter months.*

Q: What is the toughest course you've ever done?

A: *The toughest course I've raced is Mont St. Anne, Quebec, Canada. It's very technical and a great challenge.*

Q: I'm sure there have been many times when things are working just right, when everything seems to be falling in place. Can you pick out one of those times and describe it for us?

A: *My very first Pro National race has to be one of the best feelings I've had racing. I showed up as a total unknown and I didn't know anyone either. It's nice not to have any presumptions about your competitors. I was there to ride the best I could and that's what I did. I felt stronger and stronger as I made my way from 58th starting position to finish 4th. I think as the race went on I was motivated by the realization that I could compete at this level.*

Q: What E-CAPS supplements do you



use? Can you tell us what your daily supplement routine is?

A: *In the morning I take 3 Premium Insurance Caps (PIC) with breakfast. I use 2 Race caps and 4 Enduro caps one hour prior to my work out. Afterwards I take 2 Super AO and Sublingual Xobaline. Also after my workout I take the other 4 PIC in the packet. If my workout is of an endurance type I take 1 Endorolyte per hour during my ride.*

Q: What's the average training day look like for you at this time of the year?

A: *This time of year I am in the Endurance Phase of my training cycle. I get up in the mornings and do my weight training while it's too cold to be outside. After lunch I road ride, skate ski, snowshoe, or run depending on the weather. All of these are at a moderate heart rate. I usually take 3-4 weeks off in the fall and gradually adapt to training again.*

Q: What are your goals for 2002?

A: *Every year my goal is to continue to improve my technical skills and be more efficient on the bike. However, my main goal for 2002 is to become National Champion and represent the US again in the World Championships.*

Q: What advice can you give the beginner to intermediate mountain biker that might be helpful?

A: *Be patient. As a basketball player for most of my life I have had to remind myself that cycling to your potential takes time. After riding and racing for five years I realize that I still have more years of training to become the best cyclist I can be.*

ALCOHOL AND THE ENDURANCE ATHLETE *by Bill Misner, Ph.D.*

During off-training circumstances, I see no harm in moderate alcohol consumption. During training, however, for achieving best/ideal training gains, most sports scientists suggest abstinence. A beer or two following a hard workout may cause significant loss of some of the gains hoped for from the preceding workout. Ergolytic is the opposite of Ergogenic. "Alcohol may impair performance, an ergolytic effect." [Williams in: Med Sci Sports Exerc 1992 Sep; 24 (9 Suppl): S344-8] All forms of Alcohol deplete Thiamine (B-1), Riboflavin (B-2), Pyridoxine (B-6), Folic acid, and inhibit the absorption of Zinc and Potassium, which "may" inhibit performance when endurance demand is extreme [late stages of the marathon, etc.]

It appears that even short-term alcohol use inhibits muscular protein synthesis. In fact, this effect is particularly pronounced in fast muscle fibers. Alcohol is detrimental dose-dependent for any athlete trying to gain muscle mass and strength. The goal of training is to increase muscle protein synthesis. Seeing what happens to those who abuse alcohol should influence endurance athletes during training to abstain from alcohol. It is well established that in many patients with cirrhosis, ethanol [an alcohol] not only reduces protein synthesis but also promotes cell proliferation and differentiation. Taking into account the decreased strength and increased fatigue of skeletal muscle, a histologic finding of reduced type II fibers in skeletal muscle of syndrome is called alcoholic myopathy. It has been proposed that alcohol myopathy is present in one third to two thirds of alcohol abusers, which predominantly affects protein synthesis and growth of this fiber. By definition, such patients have decreased muscle type. Reduced protein synthesis with consequent decrease in strength tend to occur.

"Alcohol may impair sports performance." [Gutgesell ME, Timmerman M, Keller A in Med Sci Sports Exerc 1996 Aug; 28 (8):1063-70.]

"It was concluded that the administration of ethanol [alcohol] adversely influenced treadmill exercise performance by eliciting a hypoglycemic effect between 30 minutes and the termination of the exercise." [Kendrick ZV, Affrime MB, Lowenthal DT in: Int J Clin Pharmacol Ther 1994 Oct;32(10):536-41.]

"Five sprinters and five middle distance athletes were tested to determine whether differing levels of alcohol (0.01 mg X ml-1, 0.05 mg X ml-1 and 0.10 mg X ml-1) had differing effects upon performance times in the 100 m, 200 m, 400 m, 800 m and 1500 m events. Blood alcohol concentration (BAC) was estimated from breath alcohol concentration (BrAC) using a hand held Drager Alcotest 7310 and a Borkenstein Breathalyzer. Alcohol affected all but the 100 m event to varying degrees. In the 200 m the performance decreased when the level of intoxication increased. This was not the case in the 400 m which showed a difference between the two lower levels of alcohol consumption (0.01 mg X ml-1 to 0.05 mg X ml-1) but not between the 0.05 mg X ml-1 and 0.10 mg X ml-1. In the middle distance events the 800 m was most adversely affected. WE CONCLUDED THAT ALCOHOL IS NOT AN ERGOGENIC AID IN SO MUCH THAT IT DOES NOT IMPROVE PERFORMANCE. In the 100 m events, performance remained stable." [McNaughton & Preece in: Br J Sports Med 1986 Jun; 20 (2):56-9.]

Tagawa M, Kano M, Okamura N, Itoh M, Sakurai E, Watanabe T, Yanai K, wrote of the relationship between the effects of alcohol on psychomotor performances and blood alcohol concentrations in Jpn J Pharmacol 2000

Jul; 83 (3): 253-60:

"Ethanol [alcohol] is a social drug and has been generally known to be a CNS depressant. A large fluctuation of BLOOD ALCOHOL CONCENTRATION (BAC) is well known to occur due to main factors such as the genetic polymorphism of the main alcohol metabolizing enzymes and the effect of blood. Few studies have substantially discussed the relationship between impaired CNS activities and BAC. In this study, focusing on the correlation of BAC, we investigated the acute effects of alcohol intake on cognitive performance in humans by objective evaluation methods consisting of the attention demanding cognitive tasks. Tasks were administered to ten healthy male volunteers before and after ingesting established amounts of alcohol. With increased BAC, we observed prolongation of reaction time performances and lowering of a coordination performance. From the results, we concluded that COGNITIVE PERFORMANCE DETERIORATES WITH AN INCREASE OF BLOOD ALCOHOL CONCENTRATION (BAC). ADDITIONALLY, THE BLOOD ALCOHOL CONCENTRATION (BAC) THRESHOLD THAT CAUSES SIGNIFICANT IMPAIRMENT OF COGNITIVE PERFORMANCE WAS ESTIMATED TO BE APPROXIMATELY 50 mg/dl (ca. 10 mM)."

Cicero TJ, Bernstein D, Badger TM wrote in their rat studies in Alcohol Clin Exp Res 1978 Jul; 2 (3):249-54:

"The results of the current studies further document that ACUTE ALCOHOL administration markedly disrupts the function of the HPG in the male. Our results indicate that alcohol depresses serum testosterone levels and, thereby, produces clinical symptoms associated with hypoandrogenization.

(Alcohol from page 8)

Moreover, our studies suggest that acute alcohol administration also affects the hypothalamic-pituitary axis by reducing serum LH levels — an effect that may represent the PRIMARY ACTION OF ALCOHOL ON THE HYPOTHALAMIC-PITUITARY-GONADATROPINS [HPG].”

Cicero & Badger wrote again in Pharmacol Exp Ther 1977 May; 201 (2): 427-33, of the effects of alcohol on the hypothalamic-pituitary-gonadal axis in the male rat:

“LH levels dropped significantly within 2 hours after the injection of a 2.5 g/kg dose of alcohol and remained depressed, at a level between 25 and 30% of control values, from 2 to 4 hours. By 6 hours after the injection, LH levels had returned to base-line levels. Testosterone levels were also reduced by alcohol, but this drop was not significant until at least 3 hours after the injection. Testosterone levels did not return to control levels throughout the 6-hour course of the experiment. Dose-response determinations revealed that alcohol produced a bi-phasic effect on serum testosterone and LH: low doses of alcohol significantly increased testosterone and LH, whereas high doses decreased the levels of both hormones. The results of these studies suggest that the ABILITY OF ALCOHOL TO DEPRESS SERUM TESTOSTERONE LEVELS, and thus produce symptoms of hypogonadism in the male of several species, is due to a primary effect of alcohol on the hypothalamic-pituitary aspect of the hypothalamic-pituitary-gonadal axis.”

If you do drink alcohol, I advise moderation, not before an event, nor during the 24-hour period prior to or the 36 hour period following a hard depletion workout.

CROSS COUNTRY SKI RACES: Hammer Gel is There!

by Steve Born

Every winter since 1993, I've used cross-country skiing (a.k.a. Nordic skiing) as my primary training prior to the upcoming year's bike racing season. Prior to my last (and fastest) RAAM effort in 1998, I had accrued less than 5,000 miles on the bike, yet due to the base I had developed during the winter from a couple thousand kilometers of Nordic skiing, I was stronger than ever and ended up with a personal best by several hours.

Minute for minute, I think you'd have a hard time finding any exercise as tough as Nordic skiing. If you're lucky enough to live in or near an area that allows you to partake of this fantastic sport, you know what I mean! Across the country, there are many marathon ski races as part of the American Ski Marathon Series and Hammer Gel is proud to be a sponsor of many of them.

Log on to www.xcskiworld.com to find a race in your area. So far, Hammer Gel will be at the following races that are in the ASM Series:

To find out more about these events and the others in the series, check out: www.xcskiworld.org/ASM/sitepreview.html



DATE	RACE	LOCATION
01/26/02	Noquemanon Ski Marathon	Marquette, MI
02/02/02	Craftsbury Marathon	Craftsbury Common, VT
02/02/02	Boulder Mountain Tour	Sun Valley, ID
02/16/02	Minnesota Finlandia	Bemidji, MN

We're also a part of a few endurance ski races that are not in the ASM series. These are:

01/26/02	OSCR Nordic Race	Seeley Lake, MT
02/02/02	Alley Loop Ski Marathon	Crested Butte, CO
02/23/02	Payette Lakes Ski Marathon	McCall, ID

CALORIES BURNED - CALORIES REPLENISHED

by Bill Misner, Ph.D. & Steve Born

Of the many questions we receive at E-CAPS, one of the most common is (paraphrased), "if I am burning 'x' amount of calories an hour, should I attempt to replenish those losses with equal amounts?" This is an excellent question. Dr. Misner and I have written a couple articles about proper fueling during exercise and I've taken parts of them to provide the answer...

The body can return 4.0-4.6 calories from fuel ingested per minute into the energy cycle. The energy expense may go as high as 15 calories per minute during aerobic exercise, or, as high as 41 calories per minute during anaerobic metabolism activities. The differences in deficit energy expense are made up via fat mobilization and lean muscle mass amino acid cannibalization. In other words, you could be using up to 900 calories an hour but your body cannot assimilate equal amounts of ingested calories. Instead, it relies primarily on body fat stores and, to a lesser degree, amino acids from either lean muscle tissue or from your fuel.

ENERGY EXPENDITURE

The calories one burns on a day to day basis depends greatly on activity level. Refer to Table A for a brief list of common activities and the amount of calories expended per minute for each activity (based on body weight in pounds).

REFERENCED IN:

Williams, MH Nutrition for Fitness and Sport
Nutrition for Fitness & Sport
Hardcover, 480 Pages, Edition Number 04, Brown & Benchmark, December 1994.
ISBN: 069723052X

Glycogen Loading in small meal format
IMMEDIATELY AFTER-EXERCISE, 60 & 120 minutes **AFTER EXERCISE** at 2 grams/kilogram body

weight will initiate glycogen loading. While it may take up to 8 grams carbohydrate per kilogram body weight over a 24-48 hour period to replace spent glycogen. Outside of glycogen loading the average fit endurance athlete has enough fat stores to run from Los Angeles to Dallas...**WITHOUT** eating. After 70-90 minutes aerobic exercise, at least 65% of your energy needs are provided by fat mobilized into the energy cycle by a number of enzymes and hormonal messengers.

I've excerpted a portion of Dr. Misner's article "CARBOHYDRATES 101: THE PERFORMANCE-LIMITING FUEL ALL YOU WANTED TO KNOW ABOUT THE WHY'S, WHEN'S, AND WHAT'S OF CARBS, AND MUCH MORE..." that discusses a proper fueling strategy the endurance athlete should employ for maximal performance benefits. The complete article can be found on the E-CAPS web site at:

<http://www.e-caps.com/endurlib/fueling/carbohydrates101.cfm>

DURING A WORKOUT:

Please refer to Table B for a chart of the following information.

60-70 grams carbohydrates per hour (Solution of up to 3 scoops Sustained Energy or 3 servings Hammer Gel in 16-24 fluid ounces water). A rough estimate figure specifies the max carbohydrate dose athletes may benefit from based on size per hour.

BOTTOM LINE:

DON'T OVEREAT DURING EXERCISE! You may be burning/using up 400-500 calories or more an hour but your body cannot replace those in equal amounts on an hourly basis. The body can only assimilate a given amount of calories an hour and to force additional food down, in the hopes of "topping off" or "getting ahead of" calorie needs, will usually backfire. Instead of having more calories available for fuel, they will sit

undigested in your stomach causing, at the very least, bloating, at the most, nausea and vomiting. Few things will slow you down faster or cause you to have to stop than taking in too many calories than your body can handle. Even the leanest of athletes has several thousand calories available in the form of stored fatty acids, most carrying nearly 100,000 calories of energy from their stores of fatty acids. Body fat stores are the fuels of choice, providing 60-65% or more of your energy needs when exercise goes beyond two hours in length. A very important part of our performance is determined by our ability to utilize stored fatty acids as energy, which is why we can continue to exercise on so seemingly few ingested calories during exercise. One of the benefits of training is an increase in utilizing these stores more efficiently and the body will rely more on these stored fatty acids to provide fuel during prolonged exercise.

REFERENCES:

Costill, D.L., Metabolic responses during distance running. JOURNAL OF APPLIED PHYSIOLOGY 28, 1970:251-255.

Ahlborg B., et al., Muscle glycogen and electrolytes during prolonged physical exercise. ACTA PHYSIOL SCAND, 1967;70:129-142.

Jones B.J.M. et al., Glucose Absorption from Maltotriose and Glucose Oligomers in the Human Jejunum, Clinical Science, 1987;72:409-414.

Jenkins, J.A., et al., Simple and complex carbohydrates: lack of glycemic difference between glucose and glucose polymers. JOURNAL OF CLINICAL NUTRITION GASTROENTEROLOGY, 1987;2:113-116.

Colgan, M., OPTIMUM SPORTS NUTRITION, Advanced Research Press, New York, 1993:94-110.

Ivy JL, Lee MC, Brozinick JT Jr, Reed MJ Muscle glycogen storage after different amounts of carbohydrate ingestion. J Appl Physiol 1988 Nov 65:5 2018-23.

Hawley, J.A., Burke, L.M., Peak performance training and nutritional strategies for sport, Allen and Irwin, Sidney, 1998.

Noakes T.D., Rehrer N.J., Maughn R.J., The Importance of Volume in Regulating Gastric Emptying, Medicine and Science in Sports and Exercise, 23(3)1991.

(Calories from page 9)

TABLE A

ENERGY EXPENSE CALORIES PER MINUTE [APPROXIMATE]

WT.	SI	BI	RU	WS	WA	AD
100	99	4.2	6.0	5.0	2.7	6.0
110	1.1	4.6	6.6	5.5	3.0	6.7
120	1.2	5.1	7.3	6.0	3.3	7.3
130	1.3	5.5	7.9	6.5	3.5	7.9
140	1.4	5.9	8.5	7.0	3.8	8.5
150	1.5	6.4	9.1	7.5	4.1	9.1
160	1.6	6.8	9.7	8.0	4.4	9.7
170	1.7	7.2	10.3	8.5	4.6	10.3
180	1.8	7.6	10.9	9.0	4.9	10.9
190	1.9	8.1	11.6	9.5	5.2	11.5
200	2.0	8.5	12.2	10.0	5.4	12.1
210	2.1	8.9	12.8	10.6	5.7	12.7
220	2.2	9.4	13.4	11.1	6.0	13.3

ACTIVITY KEY

Weight = WT

Sitting = SI

Bicycling 10mph = BI

Running 5mph=RU

Water Skiing = WS

Walking 3mph = WA

Aerobic Dancing = AD

TABLE B

HG=HAMMER GEL, SE=SUSTAINED ENERGY

WEIGHT	MAX CHO g./HOUR	[k/cal]	HG[servings]	SE[scoops]
110	48	[192]	-2	2.0
121	53	[212]	-2	2.17
132	58	[232]	-2.3	2.38
143	62	[248]	-2.5	2.54
154	67	[268]	-2.75	2.75
165	72	[288]	-3.0	3.0
176	77	[308]	-3.0	3.16
187	82	[328]	-3.25	3.36
198	86	[344]	-3.50	3.53

FOOTNOTE:

This is a ROUGH estimate; each athlete should exercise trial in training to determine exact biochemistry optimums. Larger athletes need more, but if gastric upset results, lower intake of CHO is preferred. Noakes and Coleman both insist the optimal re-storage rate during exercise ranges between 1.0-1.1 grams CHO per minute for most athletes in endurance events. Neither of them addresses size differences in the numerous communications received to date.

COMING SOON - New Hammer Gel Pouches!

Hopefully, you know that we hate those disposable single serving pouches and would prefer that ALL energy gels be consumed from eco friendly flasks. Since we don't live in a perfect world, we sometimes have to compromise and this is one of those instances. We had sample pouches last year, but they were pretty sub par. We heard a lot of athletes saying, "I loved the sample of Hammer Gel, but the pouch sucked". Unfortunately, many people do judge books by the cover. So, we are doing brand new, die cut, spout top pouches that will be used for promotional samples and sold to the general public. The retail price is estimated at \$.99 each.

So, if you have been wanting a more user friendly version of the Hammer Gel single serving pouch, it's on the way. However, don't let your spent pouches end up anywhere besides a trash receptacle or we **WILL** hunt you down and make you eat it, dirt, ants and all.

Here's a
sneak-peek of
what the new
pouches just might
look like.





Happy New Year from the staff at E-Caps & Hammer Nutrition. Make it great!

The Last Lap

MAILBAG!!!

We are all aware of the benefits of proper nutrition (i.e. Sustained Energy during athletic competition (a.k.a. adult play). Using Sustained Energy, I can follow a much younger and more talented rider all day. And on that late afternoon climb, when he bonks, I just blow by him. It's a lot of fun to perform so well, and feel so good.

But, the same is also true at work. Most folks have a morning coffee (and donut or bagel) break, head to McDonalds for their noon time fat injection, then try to get by as the afternoon drags by on caffeine and sugar. With Sustained Energy instead of coffee, bagels, McDonalds, cokes and candy, I am ON all day long.

When my associates are groggy in the morning, or from too much lunch, or edgy and unable to focus in the afternoon from sugar and caffeine, I just move smoothly through the pack. About the time they are bonking, I down a bottle of SE, and head out to smoke my bike tires on the afternoon's ride.

It may be cool to place well in a race, but its worth big bucks to kick-butt at work! Y'all should really market this stuff for all of us work-a-holics. Work is an endurance athletic competition too. And proper nutrition (S.E.) is a big help. Instead of Starbucks shops there should be Hammer shops and S.E. rather than Latte'

J. Michael Jacob (Mike)
*McNelly Distinguished Professor
School of Technology, Purdue University*

