ENDURANCE NEWS #22

-ANDROSTENEDIONE-PRESENT STRENGTH VS. LONG-TERM HEALTH

Recently "Androstenedione" made the headlines of the Sports Page when Mark McGwire, the new home run king, admitted to using this androgenic hormone supplement. Many bodybuilders use this androgen in an oral supplement form to elevate blood serum testosterone levels for enhancing anabolic lean muscle mass growth post-exercise. Many reporters have cross-referenced or associated the supplement androgen, Androstenedione, with illegal banned substance use of Anabolic Steroids which is not entirely an accurate assessment.

ANDROSTENEDIONE is a natural androgen secreted by the testis, adrenal cortex, or ovaries. In the human body cholesterol is converted into Pregnenolone under the influence of (ACTH) Adrenocorticotrophic Hormone from the Pituitary Gland and is transformed into Progesterone and Corticosteroids. Under the additional influence of the Luteinizing Hormone, the remaining Progesterone is converted to the Androgens, Androstenedione and Testosterone, which contribute to muscle fiber size restructure postexercise stress and connective tissue repair. In males, genetic factor controls allow a tiny fraction of the female hormones, Estrone and Estradiol, to precede from and during the systemic metabolism of Androstenedione and Testosterone. These same but obviously different genetic

(continued on page 7)

DR. BILL SETS A NEW WORLD RECORD!

Dr. Bill Misner, Staff Nutritionist and head of Research and Product

Development for E-CAPS/Hammer Nutrition, won the 10,000 mile fun run division of the Million Mile Ultra Run with an official time of 650 days, 15 hours, 13 minutes, and 17 seconds on Oct. 13, 1998. Bill moved into

the lead in the spring of this year, passing Claudia Berryman-Shafer, who is now in second place (and first woman) at about 8850 miles.

The Million Mile Ultra Run is the world's longest foot race. There are fun run divisions of 1,000, 10,000, and 100,000 mile distances, all races starting together. Currently there are 201 runners from all over the world competing.

The race officially began on Jan. 1, 1997, but Bill did not enter until June 3rd. Over the next 497 days, he averaged just over 20 miles per day. He has put in tremendous mileage, going through 34 pairs of running shoes during this period. From February through September of this year, his monthly miles were 565, 538, 486, 607, 701, 751, 686, and 758.

He ran 2 or 3 times per day even while suffering through pulled hamstrings (twice each), both calves (3 times), a sprained ankle, and bilateral patellofemoral chondromalacia in his knees. In the first 9 days of October alone, he averaged 32 miles per day. With 81 miles to go, he sprained his ankle again. In spite of having to hobble or walk the rest of the way, he

continued on for the final 4 days with "runs" of 7, 14, 18, 28 last night, and

14 miles this morning to the finish. Bill does most of his running on trails in the wooded areas around his home in Spokane, Washington.

This accomplishment is even more mind bog-

gling when one considers that Dr. Misner also logs an average of 8-12 hours a day doing his job at E-CAPS/ Hammer Nutrition. He also found time to author a 287 page book during this time (see related story on page 3).

Bill now holds the Official WORLD RECORD for the Longest Race ever finished in an organized ultrarunning race and has already begun his quest for 100,000 miles! The longest race in a physical location is the Sri Chinmoy 3100 mile run with a 64 day time limit, held only once in New York City on a one mile, flat, paved loop.

Matt Mahoney is the race director, matmahoney@aol.com, MILLION MILE ULTRA RUN, which is an ongoing contest to see how far you can run with 1000, 10,000, and 100,000 mile sub-events en route to 1,000,000 million miles; speed, age, and gender are not a factor, simply who is willing to put in the time and distance to compile distance running and/or walking. To enter, runners go to the web site www.he.net/ ~mmahoney/ultra/million.htm, register, and post their miles for each month. Complete rules are listed at the web site.



CALLING ALL CHAMPIONS

Did you win a World, National, State, Regional or District Championship this year while using E-CAPS and/or Hammer Nutrition products? Or maybe you set a new World Record. National Record or age group record? Continuing with the theme that we started in 1998, it is our goal to keep an accurate tally of our customers and sponsored athletes that reach these heights. Besides giving you a big pat on the back and listing your accomplishments in a future issue of Endurance News, we may be interested in featuring you in our 1999 brochure.

Contact Brian Frank ifyour are interested: bfrank@e-caps.com or 800-336-1977. ■

WINTER TRAINING by NATE LLERANDI

Many people end their seasons wondering what they could have done better, how they can improve for the upcoming season and vowing they will be eating cold-forged steel and spitting nails for breakfast by the time Spring arrives. I know, I did that every year of my competitive sports life.

While I looked forward to a break from the rigors of hard training, I was also devising the "Master Plan" that would give me a leg up on the competition the following year. The following is a list of "truths" I feel any endurance athlete can use to improve their performances from one year to the next. And the best part is, these guidelines are implemented during the winter. So, by the time you need to concentrate on hardcore training and racing, your foundation will be laid. All you have to do is add the structure and finishing touches!

RULE 1: Pump Iron. By improving your overall strength, you will improve your performance. With more muscle mass and strength comes increased force and power, both crucial elements in going faster. The idea is not to bulk up but rather to gain strength. Some size will follow, but that will be an asset. Doing one set per exercise to complete failure will suffice for endurance athletes. Use a wide array of exercises to hit the entire body. Lift 2-3 times per week.

RULE 2: Increase flexibility. Stretching is the easiest part of training yet the most often neglected. Spending as little as 10-15 minutes a day on flexibility will do wonders for your performance, recovery and injury prevention.

RULE 3: Work on your weaknesses. You know what they are and usually avoid them like the Plague. That's why they are weaknesses. By working on them in the winter, they will become less

weak and may even shift to a strength. Also, by working on y o u r w e a k n e s s e s, y o u r strengths



become complemented and enhanced as well. Thus, you become a better overall athlete which can only serve to improve your performances.

RULE 4: Rest. At the end of the season, honor your exertions and achievements from the previous season by giving yourself a month break. I call this "Transition Time." You can be inactive, moderately active or somewhere in between. The idea is to totally break away from what you've been doing the past 11 months. In order to reach "the next level," you have to allow your body to detrain and recover fully first. Take a step or two backwards in fitness before you take three or four — or more! — forward.

Don't keep track of your workouts or how long you workout. Go easy, explore new types of exercises, leave your HR monitor behind. Just have fun! And get psyched to get back into a new routine!

RULE 5: R & R. The biggest deterrent to improvement is lack of rest and recovery. The "more is better" mentality works, for a short period of time, before it totally craters you. Your body breaks down quickly when pushed too hard. You improve NOT when you do the hard or long workouts, but rather when you REST properly after them. Ultimately, you should be allowing yourself no less than 36 hours between hard workouts (up to 48 is fine).

(continued on page 6)



DR. BILL'S NEW BOOK

New Book Reveals The Secrets to Maximizing Athletic Performance and Health Through Proper Diet and Effective Supplementation

In his just published book, Nutrition For Endurance: Finding Another Gear, E-CAPS/Hammer Nutrition staff nutritionist and head of Research & Product Development, Dr. Bill Misner, Ph.D. explains, in terms all of us can understand, how our muscles and bodies really work - what fuels endurance, what nutrients and minerals are essential for athletic performance, and how they are depleted to cause premature exhaustion. He tells why, what, how, and when to use athletic supplements, nutrients, micronutrients, and fluids to "find another gear" and live better too.

We believe and hope that endurance athletes like you, who are serious about their performance and health, are hungry for a resource such as this to answer the plethora of questions that they have regarding nutrition and supplements. Dr. Misner relates his work with elite and average athletes to find dietary formulas that everyone can use to live a healthier life. In the process, he discusses the causes and ways to reverse the ravages of aging, disease and chronic degenerative conditions.

According to Dr. Misner, "Using diagnostic science to discover what works best for an athlete in terms of foods, supplements, training, and recovery reveals knowledge practiced by less than 10% of all endurance athletes. Helping the other 90% understand these simple facts and improve their performance through diet is the quest of this book."

With in depth sections that cover foods to avoid, vitamins and minerals, ergogenics, micro ergogenics, nutritional supplements for overuse injuries, hydration for when the heat is on, and the secret stuff of a personal best, this book covers all the bases and answers all the questions that endurance athletes have.

As most of you already know, Dr. Bill is a Ph.D. in holistic nutrition and a multiple National Champion competitive athlete. Dr. Misner's current athletic pursuit is the Million Mile Ultra Run which began on January 1, 1997. After a slow start, logging only 720 miles as of 6/3/97, Dr. Misner has just set a new world record by being the first athlete to reach the 10,000 mile mark. To do this, Dr. Misner has logged between 700 and 750 miles per month for over a year. No one can accuse him of not practicing what he preaches.

The cost of this 287 page book, complete with appendix and charts, is \$22.95 by calling E-CAPS @ 1-800-336-1977 with a credit card. You may also mail a check or money order for the same amount to P.O. BOX 4010, Whitefish, MT 59937 if you prefer. This price includes priority mail postage. You can also order the book on-line through the E-CAPS web site: www.e-caps.com/ supplements/. Do not delay in ordering your copy since the first 150 customers to order will receive a personally inscribed copy (only a few dozen remaining) from Dr. Bill and the second 150 will receive an autographed copy. These are sure to become collector's items as this book becomes a primary reference tool for the serious endurance athlete.

HAMMER GEL UPDATE #1 5 Flavors in Pouches

Yes, it's true, we have decided to begin manufacturing 5 flavors of Hammer Gel in those wasteful, single serving pouches. However, we are not abandoning the bulk packaging concept at all. In fact, the purpose of the pouches is to simply be able to sample the product to a wider number of athletes with the hope that once they try a serving, they will be more willing to invest \$12.00 in a whole jug.

Although we intend to use the pouches primarily for sampling, we will be grudgingly sell them to those customers, mainly runners, who find that the jug and gel flask are not convenient or logistically viable for their exercise application. The cost will be \$.65 per pouch, which is only slightly more expensive than the \$.50 per serving cost of the bulk Hammer Gel.

For those of you who remember our original pouches, the new ones are markedly improved. However, they are certainly no where near as sophisticated as the GU or Powergel die cut style pouches. The new Hammer Gel pouch is still a rectangular envelope style, but is narrower in order to eliminate the tendency to cut the corners of your mouth.

The "sample" pouches will be in stock, mid November, by the time you read this issue of Endurance News, and will be offered in Banana, Orange, Raspberry, Vanilla and Un-Flavored versions. If you are interested in them, contact Hammer Nutrition @ 1-800-336-1977 or visit the web site hammernutrition.com.

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HAMMER GEL FLAVORS

Where's my Chocolate and Espresso?

The fact that these two popular flavors have been out of stock for several weeks has been upsetting to those of you who prefer these two flavors. Firstly, I would like to apologize for this inconvenience. However, you surely have noticed that they tended to be too thick and as a result somewhat difficult to use, especially in colder weather, without some post purchase manipulation. And, while we appreciate your willingness to add water and microwave the jugs to get them to the desired consistency, I just couldn't stand to have products leaving our warehouse that are not perfect. So, we took them off line until the problem could be fixed.

In light of these production difficulties, we have been working feverishly to redo the formulations of the Chocolate and Espresso flavors so that they will more closely resemble the other flavors in terms of viscosity and not have the tendency to harden in the top portion of the jug. By switching from a liquid to a powdered cocoa flavor, we believe that we have the problem licked, no pun intended. This may seem like just the opposite direction to solve the problem, but it is actually working.

So, the new and improved versions of these flavors should be back in stock by mid-November, but certainly no later than December 1st. You may notice a slight difference in the taste as a result of the changes, but we think it is minimal. Thank you again for your patience and understanding.

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CREATINE QUALITY GOES UP, PRICE GOES DOWN

Two of the positive side effects of the current craze over the supplement Creatine Monohydrate is that market forces have forced manufacturers to produce higher and higher quality materials while reducing the cost at the same time. As a result of these market forces, we are now able to offer an even higher quality creatine monohydrate in the E-CAPS' Creatine Boost AND lower the price from \$14.95 for a 120 gram container to \$9.95.

This is amazing when you consider that several years ago when creatine was first introduced into this county, it was selling for around \$2 per gram. Today, we can offer the highest grade creatine monohydrate for \$.08 per gram. Of course, bargain hunters can purchase it by the kilo for even less, but they must also be concerned with quality as well as pricing. The nice thing about creatine is that you can determine the quality by how it tastes. The purer the creatine monohydrate, the less bitterness you will detect in the taste. In fact the highest quality creatine, such as found in Creatine Boost, tastes almost sweet and has no hint of bitterness. Of course this litmus test only works with raw creatine monohydrate powder. When it is tableted or carbohydrates are added, it can have the effect of masking out the bitter taste of an inferior quality material. Now, we certainly are not accusing any company that offers creatine in tablets or mixed with a carbohydrate component of using inferior materials. However, that possibility does exist and surely there are unscrupulous companies out there who want to make even higher profits on this popular supplement by these means.

Just because the prices are tumbling and the quality is rising, this does not change the fact that this particular ergogenic should be used sparingly and with some caution. Dr. Bill still recommends that it be loaded for no more than 5-7 days before a key competition. And actually, many athletes find that their gains peak after 3 days of loading. Results vary from athlete to athlete and also depend on the type of event. Furthermore, he would suggest that these loading cycles be limited to 3-6 events per year with hopefully 4-6 weeks of washout time in between.

For more information on Creatine Monohydrate, contact E-CAPS or visit their web site.

SPECIAL SUPER AO (ANTI-OXIDANT) OFFER

If you missed our special introductory offer on this new Product, here's another chance. If you call before December 1st, and mention EN#22, instead of paying \$39.95 per bottle you can purchase as many Super AO's as you want for just \$29.95 per bottle. And yes, if you buy 3 bottles or more, we'll pick up the shipping.

Product Specifications: 60 capsules per bottle (a 30-60 day supply)

Each Capsule Contains:

Enteric Coated Super Oxide Dismutase (SOD) 5,000 McCord-Fritovich Units Grape Seed Extract 100 MG Ginkgo Biloba 50 MG L-Glutathione 100 MG Gotu Kola 50 MG

Suggested Use: Take 1-2 capsules within 60 minutes of completing a workout or with a meal on non workout days.

CALL 1-800-336-1977 TODAY TO START ENJOYING THE BENEFITS OF SUPER ANTI OXIDANT SUPPLEMENTATION.

ANOTHER LOOK AT SUPER AO (Anti-Oxidant)

Some or most readers of Endurance News and those of you who received the special mailing on the new Super AO Formula may have received the distinct impression that this product is only necessary or beneficial when you are engaged in heavy training. This misconception is entirely our fault since the articles and mailer focused so heavily on that application. While the nearly miraculous post race recovery of masters athletes who have recently competed in events like the Canadian and Hawaiian Ironman (taking Super AO in training and during the race) indicates the Super AO's effectiveness in this area, I wanted to give you another perspective.

The truth is that this Super Anti-Oxidant supplement probably has the broadest range of applications and benefits of any product ever developed by E-CAPS. While that may sound like a pretty bold claim, it is most likely an understatement.

Since a growing body of research is pointing to free radical activity in the human body being the root cause of most, if not all illness and degenerative diseases and the aging process itself, it should be apparent that we need to aggressively try to eliminate as much free radicals from our body as possible. Free radicals get into all of us from air pollution, water pollution, herbicides, pesticides, food biodegradation, fat rancidity, ultra-violet radiation, and electro-magnetic pollution (computers). breathing causes free radical production. Science is also indicating a direct correlation between increasing free radical activity and advancing age, i.e. the older an individual, the greater the level of free radical activity tends to be.

So, even if you aren't training at all, which is doubtful, or are only training at moderate intensity levels a few hours per week, the other non exercise related causes of free radical production easily justifies the ongoing use of a supplement like the Super AO formula.

During a recent conversation with a world class mountain bike racer, she related that she felt the need to do a de-tox program after so many months

of steady high volume training.

She wondered if the re was any certain nutrients or supplement that I could recommend. Needless

to say, I immediately sent her two bottles of Super AO since it fit the application in question to a tee. Although you may not be a world class athlete (then again maybe you are) the fact that you have been engaging in constant, free radical producing, training for the past 6 to 8 months is just one more reason to do a 90 day or longer "de-tox" program.

Another recent development further solidified the non exercise applications of this formula to me. Shortly after introducing the Super AO formula, I was contacted by a long time customer who also happens to be a physician specializing in heart disease. He related the fact that he was aware of a growing number of cardiac specialists who had patients that were seeking natural alternatives to the usual angioplasty and heart bypass surgery treatment methods. These holistic minded MD's are pre-

scribing a supplement protocol for their patients that includes vitamin antioxidants such as A, E, and C, high potency Co Q 10 and Super antioxidants such as grape seed extract and glutathione.

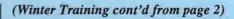
He stated that patients following a regimen of improved diet, mild exercise and progressive supplementation were successfully avoiding the knife and simultaneously regaining a quality of life that they had thought to be lost forever. He also

suggested that a 1/2 daily dosage of Premium Insurance Caps, 2 Race Caps and 2 Super AO capsules would replace and even improve upon the supplements that these patients were now spending hundreds of dollars per month to procure elsewhere.

I immediately began thinking that if supplementing with these nutrients could have this type of effect on patients with advanced heart disease, what are the implications for relatively healthy individuals? Could long term use of super antioxidants significantly lower the number of annual deaths of one of our nation's number one killers? The extremely low incidence of heart disease among the French people, despite high cholesterol diets, has certainly been used to advance this theory.

Hopefully, you are getting the idea that supplementing with Super antioxidants all year long, not just during periods of heavy training, is a very good idea. As you can see from the chart below, even if you are taking vitamin antioxidants, they fall well short of the effects of SOD and GSE. Bagchi (1997) assessed the free radical scavenging capacity of

(continued on page 6)





ANOTHER LOOK AT SUPER AO continued

several external substrates and concluded the following data:

SUBSTRATE FREE RADICAL INHIBITION RATE

Vitamin C	12-19%
Vitamin E (Succinate)	36-44%
Grape Seed Extract (GSE)	78-81%
Super Oxide Dismutase (SO	D)
& Catalase	83%

In developing the Super AO formula, Dr. Misner did an exhaustive review of the existing research on the new "super" antioxidants. His Super AO Formula is the result of this work. His findings allowed us to focus in on the truly effective Super Antioxidants and leave out the less effective, trendy, and/or duplicate ones. Below is another look at the Super AO Formula with more information on the origin of each substrate.

(1) SUPER OXIDE DISMUTASE (SOD): 5000 McCord-Fritovich Units enteric-coated for optimal absorption availability to deep muscle cell tissues where Free Radicals tend to accumulate. (Catalase, which normally accompanies SOD, is found in almost all cells, but may be found in its highest content in hydroponically-grown, concentrated wheat sprouts.) We sourced this nutrient from a gentleman who many in the industry refer to as the father of SOD. He has been studying and working with SOD since 1978. His company is one of few with the technology to make supplemental SOD biologically active using a proprietary enteric coating process. This special resin is impervious to the acidic environment in the stomach, which destroys unprotected SOD, but completely dissolves when it encounters the alkaline environment in the small intestine where the majority of nutrient absorption occurs.

(2) GRAPE SEED EXTRACT (100 mg.): Proanthocynidins are a group of polyphenolyic bioflavanoids, observed to biologically protect and act against all chemo-reactive oxygen-free radicals. We use BioVin GSE from France which is widely viewed as being superior to all other brands of Grape Seed extract. This is because it is a full spectrum product made with the skins, seeds and stem extract. They claim that only the whole grape product (seed, skin, and stems) provides resveratrol, a powerful cancer inhibitor. BioVin from Cyvex Naturals is the only GSE on the market which contains resveratrol and this, in part, is why their product outperforms all other grape extracts on the market according to independent studies.

(3) GLUTATHIONE (100 mg.): Normally produced by the human body from n-acetyl cysteine. Body glutathione stores are seen to decline with age, and have been suggested as a method for measuring the aging process. The more glutathione content present the more likely you have many more years to live! (Varyshkin 1981). We spared no expense in sourcing the highest quality glutathione available.

(4) GINKGO BILOBA & GOTU KOLA (50 mg. each). These herbs combine flavonglycosides with active terpene lactones for providing the circulatory support for each of the three primary free radical scavenging agents in the Super AO formula. The ginkgo and gotu found in the Super AO comes from one of the leading importers of these South American herbs. ■

Between hard workouts, do nothing or train easy, but keep your HR below 75% of maximum. This aerobic training is crucial in two ways: 1) it allows your body to heal from the hard workout; and 2) it is the cornerstone of your fitness foundation. Speed is useless if you don't have the ability to use it for prolonged periods of time. Aerobic fitness helps you combine your speed with endurance. Save your longer workouts for the weekend, when the hassles of work, etc. can be left behind. And above all, take one day totally off during the week. Devote the extra time to pursuits, or people, that your training usually precludes. I recommend Mondays or Fridays.

RULE 6: Listen to your body!!!!! This is the most important rule to follow, yet we all fall way short of truly doing this. We get too caught up in weekly totals or the number of hard workouts we just have to do, that we tune out the best coach in the world - our bodies. No matter what your training is for the day, if your body is sending you cues that a track workout is a bad idea, then don't do it. Go easy or take a break. The body speaks softly, but if we don't listen, then it will wield that big stick and send us to the canvas. Hard. We get sick or, worse, injured. And for what? Ego-boosting bragging rights. Well, you won't be bragging if you have a thermometer sticking out of your mouth or are limping to the office from that run you just "had" to do. A smart athlete is a happy athlete.

That's about it. No secret potions or magic brews. Just some common sense and a willingness to turn yourself into a more well-rounded athlete. It's not easy, but I guarantee you will be thrilled with your performances if you follow the guidelines outlined above. Good luck and happy training!

controls in females divert most of the Androgens (Androstenedione + Testosterone) into a significantly large fraction of the estrogens previously mentioned.

Chart A below is a summary picture of how these progressive androgenic hormones are reduced in human metabolism:

of the tests to determine the use of a banned anabolic substance used by both IOC and the United States Olympic Committee is the Testosterone to Epitestoserone Ration or T:E Ratio. If T:E Ratio exceeds 6 to 1, then the athlete may face punitive consequences for use of a banned substance as an unfair ergogenic advantage and harmful to the health of

known to raise T:E Ratios as high as 14:1 on the day of competition! (Phillips 1997)

No one wants to hear about the extreme hazards to health imposed by raising excitatory or anabolic hormones for enhancing sports performances. The enormously complex helix DNA structures which contribute to reproducing and replacing 98% of our cellular being may be adversely effected by irregular pulsing doses of anabolic or excitatory hormone production. Certain DNA cellular properties react mutagenically when adverse biochemistry is present in some (but not all) athletes. A high percentage of heavy anabolic steroid users are a living testimony of this mechanism which tends to rob some of us of both longevity and present a healthy lifestyle. Caution was first issued by some alternative medicine practitioners against the prolonged or high-dose use of DHEA, ANDROSTENEDIONE, and several other excitatory stimulant supplements, and now not only has IOC & USOC banned most of these substances, but the allopathic community shares this leaning and discourages extreme or prolonged dose use.

It is fortunate for Mark McGwire that he does not have to abide by the **GROUP #2** (100 mg. DHEA) #2

strict Amateur IOC Olympic Athlete Substance Use Guidelines; if he did, he might not have the same job he enjoys today.

(continued on page 8)

CHART A CHOLESTEROL<——ACTH Influence to **PREGNENOLONE** to

DEHYDROEPIANDROSTERONE (DHEA) OR PROGESTERONE--> CORTICOSTEROIDS

-Luteinizing Hormone Influence

ANDROSTENEDIONE--->TESTOSTERONE (Androgens-high % Male)

to

ESTRONE

ESTRADIOL (Estrogens-high % Female)

Supplemented doses of 100 mg. of Androstenedione administered to female group #1 were compared to a like oral dose of 100 mg. of (DHEA) Dehydroepiandrosterone to female in group number #2; both groups experienced measurable elevated serum testosterone above norms* (Mahesh and Greenblatt 1962).

*(Normal Female Testosterone is less than 100 ng/dl; for males the ranges are from 300 ng/dl to 1000 ng/dl) Chart B on the right shows the results of 100 mg. oral DHEA and Oral Androstenedione after 30, 60, and 90 minutes.

The International Olympic Committee has placed the oral or injected substance, ANDROSTENEDIONE, on their banned substance list. One the athlete. It would be well to note that DHEA is also on the IOC banned substance list.

If the normal Testosterone for a women is under 100 ng/dl and she ingests a 100 mg. tablet of Andros-

GROUP #1 (100 mg. ANDROSTENEDIONE) **BLOOD SERUM TESTOSTERONE LEVELS** TIME #1 220 ng/dl 160 ng/dl 30" 280 ng/dl 60' 660 ng/dl CHART B 90' 380 ng/dl 130 ng/dl

tenedione 60-90 minutes before her competition, she could easily test above the 6:1 T:E ratio minimum. The same ratio applies to male athletes. Androstenedione has been

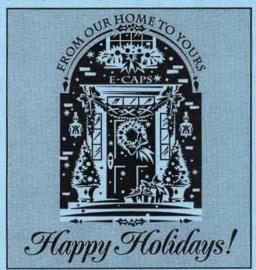
(ANDROSTENEDIONE cont'd from page 7)

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ENDURANCE NEWS 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 to 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, EN 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 Editor

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

Page 8

- SPECIAL OFFER ON SUPER AO
- ANOTHER LOOK AT SUPER AO
 - HAMMER GEL FLAVORS
- · CREATINE QUALITY GOES UP,
- HAMMER GEL UPDATE POUCHES
 - · DB' BITT. 2 NEM BOOK
 - WINTER TRAINING
 - · CALLING ALL CHAMPIONS
- DR. BILL SETS A NEW WORLD RECORD!
 - ANDROSTENEDIONE PRESENT

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Whitefish, MT 59937
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