

MORE ON COLLOIDAL MINERALS

Since the last issue of *Endurance News*, we have done much research on the subject of colloidal minerals. The article by Dr. Bill has many valid points and I am certainly leaning in his direction as far as the safety and efficacy of colloidal mineral supplements. However, I cannot entirely discount the positive anecdotal feedback that I have received from friends and family who have been using the minerals for the past several months.

You must understand that Dr. Bill is a purist and evaluates every product from that point of view. No compromises. He will obviously never make it as a politician. The points that he makes about the accumulative build up of toxic metals such as mercury and lead cannot be denied. When we ask the proponents about this issue, they say that the levels are so low that one needn't worry. However, they can't have it both ways either. If there are enough good minerals in colloidal solutions to confer such tremendous health benefits, then there has to be enough of the harmful ones to be concerned about.

As much as I would like to write off colloidal minerals as being unsafe, I can't ignore the feedback I have re-



ceived from trusted sources like my mother, for example. Within two

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COLLOIDAL MINERALS OR TOXIC METALS? Part 1 - By Bill Misner, Ph.D.

Mercury has no essential function within the human body. It is regarded as being toxic in any dosage and is accumulative in the liver, brain and internal organs. Mercury compounds are found in laxatives, cosmetics, tooth fillings, and colloidal mineral supplements. These supplements also contain other toxic, accumulative minerals such as cadmium, aluminum, and lead. I am concerned about the presence of these minerals, and the possible effects of long term use of colloidal mineral supplements. Taking any colloidal minerals with lead, cadmium, mercury, or for that matter colloidal minerals themselves, as beneficial to health is a question that is not settled in terms of harm much less health. Mercury and lead are the two elements that I am most concerned with and will focus on in this article.

The average intake of mercury from food sources is estimated to be 0.5 milligram per day. Oral ingestion of as little as 100 milligrams of mercury chloride produces toxic symptoms, and 500 milligrams is usually fatal unless treated by penicillamine, a chelating agent. They are put there in order to kill bacteria, unfortunately in time the accumulative effects can kill us too! About 10% of the mercury which accumulates will be in the brain. Two forms of mercury (methyl and phenyl) deplete the brain of zinc. Methyl mercury, organically found in fish tissue, is probably the most dangerous contaminate to human health through di-

etary means. Methyl mercury is known to cause nerve, birth and genetic defects. Chromosomal damage has been observed in people eating mercury poisoned fish.

Even though the Federal Government regards 1 part per million as safe, you must remember that mercury is accumulative! Mercury can cause both brain damage and manic depression. Toxic metals such as copper, cadmium, and water born nitrates are distant toxic cousins to mercury and also cause specific maladies peculiar to each. Colloidal silver which is touted to be a powerful non-toxic natural antibiotic is formulated in concentrations of 3-5

PPM. Scientists have found that individually harmless chemicals when combined with food or drugs may become toxic. Two parts per million copper or eight PPM of zinc will not hurt fish, but combine one tenth of these amounts and all fish will die! That translates into less than a part per million.

No one knows the hows and whys of chemical interactions of the existent 63,000 chemicals and exactly what combinations of which chemical can be lethal. *The Journal of Food Science* carried a report in 1976 about a small scale study to examine the synergism of harmful toxins in the environment. When three additives were tested one at a time on rats, the animals stayed well. When additives were tested two



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E-CAPS' DHEA DILEMMA

By now, you must have heard of DHEA. This new supplement has received more promotion and hype, bordering on hysteria, than I have seen in the past decade. E-CAPS has received quite a few calls from customers wondering if we offer it or when we will begin offering DHEA. While this is a very promising new supplement, it does have its drawbacks.

The dilemma that we are faced with is this: The U.S.O.C. has added DHEA to its banned substance list which means that it is illegal for athletes to use it if they compete in any USAT, USCF, NORBA or any other officially sanctioned event. This makes the product almost untouchable for E-CAPS, since we have always been committed to providing nothing but safe, LEGAL, natural performance enhancers. On the other hand, the market is being flooded with inferior or entirely ineffective forms of DHEA. Furthermore, we have not seen any of the companies marketing DHEA making an attempt to educate the baby boomers who are snatching it up on how to use it correctly and about the risk factors involved. This alone makes me want to offer it so that at least E-CAPS customers will get the highest quality DHEA available, at a lower price, and receive the critical information needed to use it responsibly if they choose to use it at all.

DHEA, Dehydroepiandrosterone for those of you proficient in pronouncing 22 letter words, is an important hormone-like substance that begins to decline in the human body after the age of 25 or 30. It has been referred to as the "mother" hormone because the body can convert it into any hormone it wants, such as testosterone, estrogen, etc. Until recently, real DHEA was available only through prescription which kept it out of reach for most people because of the \$90+ per month cost. The change in FDA classification eliminated all restrictions on its sale and use, which has caused it to be sold on practically every street corner.

Supplementing with DHEA is thought to have wide ranging health benefits. In fact, it has been touted as "a taste of the fountain of youth." Claims for DHEA include: looking younger, living longer, feeling better, reducing body fat while building lean muscle mass, restoring sexual vigor, boosting the immune system and protecting against just about every major disease. Obviously, promises like this have led to widespread use among those 30-40 years and older. And, I would imagine that most masters athletes, who are not usually subjected to drug tests, will be using DHEA in an attempt to gain a competitive edge.

But, is this product everything it is cracked up to be and what about the downsides? I feel that there are several areas of consideration/concern that you must be aware of before you begin using this product, if at all.

For decades diosgenin or *Dioscorea barbasco* extracts, which is the true name of the South American Wild Yam, have been sold claiming that the body can convert it into DHEA. This is not true. Stephen Cherniske explains in his book, *The DHEA Breakthrough*, "The structure of diosgenin has six carbon rings, while sex hormones in our bodies, including DHEA, have four carbon rings. Two of diosgenin's rings must be broken to yield the four-ring human steroidal hormone structure before our bodies can use it as DHEA. *The human body cannot do this. It can only be accomplished in a laboratory.*" For this rea-

son, you should not waste your time or money on any of these natural extracts thinking that your body will be able to convert it into even 1 micro gram of DHEA.

Another critical area of concern for anyone taking DHEA, especially men, is the cancer connection. DHEA itself is not carcinogenic, but supplementing with it if you already have cancer can cause the cancer to proliferate exponentially. We know this to be true with men who have prostate cancer and some in the medical field feel it is also an issue for women with breast cancer.

Men over 40 should already be having thorough prostate exams at least every two years and at least every year for those over 50. These men should not take DHEA unless they have had a prostate exam within the past six months. I also think that men younger than 40 years should still have a prostate exam before supplementing with DHEA. The same goes for masters age women. They should be doing self exams routinely and have a doctor examine for breast cancer on an annual basis. The link here is not as strong as it is for men, but you cannot be too cautious when it comes to cancer.

Still another concern about DHEA supplements is how much a person should take. In just the past year, dosages recommended by companies marketing DHEA have increased from 1-5mg per capsule to 25-60mg per capsule. However, this is definitely a



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THE BIOCHEMICAL KEY TO A PERSONAL BEST: COENZYME Q-10

By Bill Misner, Ph.D.

Races in this day are so close. The Olympic Marathon this year is a prime example; after 26 miles (and 18 months of intense training) three men stride toward the finish line all within 250 meters of each other. Mere seconds separated this year's age group finishers at the Ironman World Championships. Fractions decided who won medals and who did not at this year's Masters National Cycling Championships!

When an athlete spends 3-6 months of intense training effort into peaking for a specific event a personal best is their primary focus. Unfortunately, performances do not always meet expectations causing a loss of valuable time and expense. What makes the difference is the climate created within the cell through training, nutrition, rest and supplemental practices. Energy resulting in intense strength gains or unfailing endurance ability are produced by the enzymatic reactions within small cellular compartments. Muscle biopsies (viewed as cross-sections of muscle tissue cells microscopically) show a well developed capillary system polka-dotted with mitochondrial cells within wide well-developed muscle fibers. Not so in the lessor trained athlete; the muscle fibers are thinner, the capillary units sparse, and the mitochondria less prominent in both quantity and quality. However, when two Olympic or National caliber athletes are compared, we cannot tell the difference by viewing muscle biopsies microscopically, yet one of those athletes is performing the mile run 2 full sections faster than the other! What is the difference?

One of the key components of muscular energy production is a cellular component called QUINONE, a cyclic organic compound, found in every cell in the body. Formerly named Ubiquinone, Coenzyme Q-10, as it is called today, is the single most important cellular enzyme necessary for generating explosive, continuous energy by all forms of muscle cells, including the human heart. As we age, Coenzyme Q-10 levels decrease within the cells, disabling the energy quality we all desire, rate of recovery, and even the rate at which we burn and store body fats, causing weight gain. Studies reveal that a 40 year old man has 30% less cellular heart muscle Coenzyme Q-10 than when he was 20 years of age. An 80 year old has only 50% of the Coenzyme Q-10 that he had when he was 20 years old.

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One of the main reasons CO Q-10 levels deteriorate with age is that too many of us eat too much "dead" food (cooked or processed). CO Q-10 can be synthesized by most humans from a combination of foods. These "live," (not processed or cooked) foods must contain large amounts of the amino acids, tyrosine and phenylalanine, with vitamins B-1, B-6, E and Coenzymes Q-1 thru Q-9, but not form any single nutrient! A diet of fish (mackerel or sardines), beef, raw cereal, raw nuts, and dark uncooked green vegetables will in combination supply the raw materials to the body for synthesizing cellular Coenzyme Q-10 for energy production by the muscle mitochondria. Some athletes do not synthesize CO Q-10 as well as others...or...they spend if overtraining, or not practicing proper pre-event rest periods to allow the tissues to rebuild from the intense energy spent in train-

ing. A number of athletes also do not supply their bodies with the raw materials to synthesize CO Q-10 from eating too much cooked or processed foods. A high percentage raw uncooked foods diet and/or Coenzyme Q-10 supplementation such as Race Caps will aid human tissue in synthesizing and saturating mitochondria with superior supplies for energy production. In the extreme cases where Coenzyme starvation is present, the first serious physical sign is periodontal gum disease. Problems with gum disease can also progress to cardiovascular disease and arterial blockage, which ultimately leads to death. The Japanese ingest CO Q-10 supplements in order to manage or prevent swollen gums and tooth deterioration within jawbone structures. Dr. E.G. Wilkinson, a periodontal scientist with the U.S. Air Force discovered a widespread deficiency of CO Q-10 in several of his patients. In his study, he successfully reversed 100% of these gum disorders by supplementation of CO Q-10 (his subjects would have lost their teeth had he not supplemented with CO Q-10). More serious consequences, as mentioned, occur in the heart muscle if CO Q-10 levels are permitted to systematically deteriorate. A number of studies conclude that supplementation of oral CO Q-10 has reversed several types of cardiovascular disorders. In a double-blind crossover study of 19 patients, cardiologist Dr. P.H. Langsjoen reported an increased volume of blood pumped, increased heart strength, and diminished shortness of breath from supplementation of 100mg of CO Q-10 per day (two race caps provide 150mg of pharmaceutical grade 99.5% pure CO Q-10). Animal studies were the first to reveal that abnormally high blood pressure could be normalized by ingesting CO Q-10. T. Yamagami found in two separate studies that human blood pressures that were too high could be successfully lowered to nearer normal levels if supplemented with oral dosages of CO Q-10 daily. Additional studies substantiate myocardial vessel blockage relief by similar oral dosages of CO Q-10.

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NEW HAMMER NUTRITION PRODUCTS

In early 1997, you will see the number of products offered by Hammer Nutrition grow. We will be introducing three new flavors of Hammer Gel as well as new packaging. In addition to the original Chocolate and Vanilla, Hammer Gel will be available in Raspberry, Un-flavored and Espresso. The Espresso flavor features 50mg of caffeine per serving. We decided that if we were doing to do caffeine, we would do it right. This flavor must be used with caution.

In addition, Hammer Nutrition will also be introducing the following new products:

Whey Pro 100; This product offers the highest biological value protein derived from 100%, ionic exchange, ultra filtered whey protein with natural chocolate flavoring and a small amount of Energy Smart, to sweeten it. All of the amino acids in this product are naturally occurring from the whey protein source. None have been added or manufactured.

Soy Pro 100; This product contains premium 100% pure isolated soy, all vegetable, protein in a convenient powder. This protein supplement is fat free, cholesterol free and lactose free. It will also be offered in natural chocolate flavor with a little Energy Smart for sweetening.

Both of these protein supplements will be more reasonably priced than competing products currently on the market. Also due in 1997 are two energy drinks and a metabolic optimizer formula. These products, like all Hammer products, will contain no fructose, refined sugars or artificial additives. Unlike Energy Surge, both energy drinks will be flavored and contain our natural sweetener. One energy drink is for training and competitions lasting less than two hours and the other is an ultra formula for training/competitions lasting more than two hours. Both will contain a balanced profile of electrolytes.

You will be informed of the release of these products in future issues of *Endurance News* as well as by direct mail. ■

5 NEW E-CAPS PRODUCTS IN 1997

There will be at least five new products added to the E-CAPS line in 1997. Most or all of them will be available in early spring. Here is a brief overview of what you can expect.

1 Premium Insurance Caps

As the name implies, this is a top shelf version of our high potency multi vitamin pack. It is an all capsule formula featuring all chelated minerals, beta carotene for the vitamin A, a full digestive enzyme profile, plus Boron and Chromemate. Each daily dosage will be split into two packets so that you can take them in the A.M. and P.M. This will also give you the versatility of using 1/2 dosages for inactive times of the year or for less active members of your family.

2 Liquid Endurance

This new product is a liquid combination of L-Carnitine and glycerol. We have formulated it to maximize fat burning while reducing dehydration during endurance training and competition. This dual action formula increases fat utilization as a fuel source and allows hyper hydration, a must for hot long races. It can be taken prior to exercise and mixed with your water or energy drink.

3 Tissue Rejuvenator

This new formula is a complimentary addition to our Shark Cartilage. It is a complex formula containing glucosamine sulfate, chondroitin sulfate, natural proteolytic enzymes and a synergistic, non stimulant, herbal complex. In combination, this formula has powerful anti-inflammatory properties and is beneficial for rejuvenating and maintaining healthy joints, ligaments, tendons, skin and connective tissue. With Tissue Rejuvenator and Shark Cartilage, you may find your Advil or other

NSAID's to be entirely unnecessary.

4 Endurolytes

Heat Stress Formula

This electrolyte formula can be taken as a supplement or mixed in your fluid replacement/energy drink to prevent hyponatremia and the rest of the mal effects of electrolyte depletion. It features Dr. Bill's precise ratio of electrolytic minerals, in chelate form, for optimum absorption and utilization. Since hyponatremia is one of the most common ailments experienced by Ironman participants, ultra runners and athletes competing in hot weather, Endurolytes will be an important addition to your supplement regimen in the summer months.

5 Anti-Fatigue Formula

This formula consists of KMG Aspartate, more commonly referred to as Potassium Magnesium Aspartate. As the name indicates, this compound consists of Aspartic Acid, an amino acid, bound to Potassium and Magnesium (important electrolytes). KMG Aspartate and it's anti-fatigue properties have been the subject of research dating back to the early sixties. Study after study has demonstrated the health and performance benefits of maintaining intracellular levels of Potassium and Magnesium in the body. Supplementing with KMG Aspartates reduces the energy your body must expend to maintain these levels within the cells and improves cardiac efficiency. This subject will be covered in much greater detail in upcoming issues of *Endurance News*.

You can expect these products to be available by mid February. You will be informed in the next issue of *Endurance News* and by special introductory offers through direct mail. ■

ENDUROX: Fact or Fiction?

The latest miracle supplement to hit the market is an ancient Chinese herb named Ciwujia. It is being marketed with heavy financial backing in the U.S. under the name of Endurox. While the product is primarily targeted at the "health and fitness" type of athlete as a fat burner, it has also been represented as a potent ergogenic aid to more serious endurance athletes like you due to its alleged ability to increase fat utilization while sparing glycogen.

You have probably already seen the full page ads in Triathlete and elsewhere or read the glowing "advertorials" by Ed Burke. It is worth mentioning that Ed Burke is tied directly to Pacific Health Laboratories in one way or another, they even offer his entire book collection for sale on their web site. I do not know for sure, but I wouldn't be surprised if he was a paid consultant or on their payroll directly. It's too bad that the magazines that have published his "advertorials" have not informed their readers of his close ties with the company marketing the product(s) he is touting.

The numbers, if valid, that Ed Burke and Pacific Health Laboratories are throwing around are nothing short of miraculous. They site studies which produced a 43.2% increase in fat utilization, 12.4% increase in anaerobic threshold and a 33% reduction in lactic acid levels. Is this herb, which has been used in China for 1700 years, the panacea that Ed Burke and Pacific Health Laboratories, Inc. would have you believe? The short answer is no. If you want the long answer, read on.

I have spoken to several athletes who have used the product and only one had positive feedback. He said he was pretty overweight, due to time off from an injury, and had lost 15 pounds over the past 4 months using Endurox. This is the type of athlete that will benefit from the Endurox, one that has a spare 15

"None of the research conducted to date, which is being used to make the outlandish claims of improvements in performance, has involved highly or even moderately trained athletes like yourselves and the ones we deal with daily."

pounds of body fat to lose. It should also be obvious that an athlete who had recently gained weight because of a break in training would tend to lose weight when he/she resumed their normal training routine. On the other hand, the four lean, fit athletes I have talked to (all 6-7% body fat or less) have complained that they experienced cramping during races and interval type of intensity training after they began using Endurox. They all stated that cramping was unusual for them and that heat was not a significant factor. To me, this suggests that the herb is forcing a carbohydrate sparing action, even when the body needs the carbs to maintain peak intensity levels and muscle contractions during exercise.

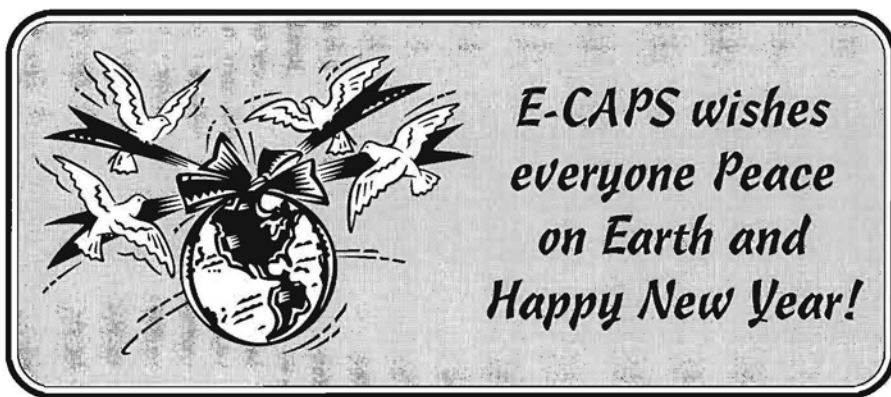
The shortcomings of this product and the claims they are making involve the level of fitness/body fat of the athlete and the level of exercise intensity. Both of which are absolutely critical in determining ratio of fuels (carbohydrate, fat, protein) the body can and will use to make energy during and after exercise. This is the same flawed logic being pushed by the 40/30/30 people. When you take a highly trained endurance athlete and have them exercise at 80-90% of their AT, carbohydrate is really

the only fuel that the body can metabolize fast enough and that will burn hot enough to keep them exercising at that rate. Fat is viable as a primary fuel source only at sub maximal workloads. A perfect example is Mark Allen bonking his brains out at mile 22 of the Berlin Marathon. He undoubtedly had enough fatty acids to run 2 marathons, as the ads claim, but at a 5 minute per mile pace, it's not going to happen. This is the same problem with the Endurox. At intensity levels above 80% of your max, if you could force the body to burn fat instead of carbs, muscle cramping and other symptoms of glycogen starvation would adversely affect your performance.

I am sure that you are saying "but what about all the research?" As far as I am concerned, in the context of serious endurance athletes, the studies are absolutely worthless. None of the research conducted to date, which is being used to make the outlandish claims of improvements in performance, has involved highly or even moderately trained athletes like yourselves and the ones we deal with daily. According to their studies, the test subjects were "healthy male adults." If you take a typical person that you might find at a health club (14-20% body fat or more, etc.) and give them this product and have them work out at sub maximal rates, it is entirely plausible that the product could produce the results they claim. Then again, if you take 500mg of L-Carnitine or any other effective lipotropic supplement and workout at 40-50% of max, you would probably burn 50% more fat too.

The one study to date that has measured the effects of ciwujia on exercise performance during high intensity exercise is the best example of flawed research. I am not going to go into all of the protocol in detail, but they started with 8 "healthy male adults" and put them through an aerobic and anaerobic as-

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Health and performance are co-companions. If an athlete attempts competition in less than optimal health, performance always suffers.

Open, supple venous and arterial vessels support endurance activity by enabling the constant flow/exchange of nutrients, oxygen, as well as waste by-products from an all out effort. All factors deciphered, the saturation of muscle mitochondria with ample Coenzyme Q-10 enhances both general health and performance.

CO Q-10 encourages the use of oxygen in both heart and skeletal muscle units as we have learned from the aforementioned studies. Relative to arterial health and performance is the action of Coenzyme Q-10 as a powerful antioxidant, which reduces free radical build up from high energy metabolism. Antioxidants affect the athlete primarily in their ability to recover. During endurance events, the accompanying increase in metabolism results in the increase of free radicals, which are oxygen molecules which are missing or have an impaired electron. They then spin and tear about the interior of the muscle erratically causing damage to every cell and tissue they touch, until...they are stopped or neutralized by either antioxidants (such as Vitamins C, or E), or by an enzyme such as Coenzyme Q-10.

CO Q-10 performs as a potent antioxidant which powerfully scavenges the tissues from free radical damage. The results of tissues saturated with CO Q-10 is both improved performance and

faster, more complete recovery from endurance activity. In cells and tissues where antioxidants and enzymes have been spent, free radicals destroy cell membranes, damage collagen and connective tissues to the extent that mutation in the DNA of the cell may occur. When free radical activity is permitted to advance this far, hardening of the arteries, cancer, Alzheimer's disease, and arthritis may result. To date, free radical activity has been implicated positively in over 60 diseases! An obvious preventative to free radical build-up is to keep tissues well saturated with both the raw, unprocessed food sources and supplemental Coenzyme Q-10, such as Race Caps. Personally, I prefer to take 2 Race Caps no later than 90 minutes prior to my workout (younger athletes may take CO Q-10 as late as 60 minutes prior). For competition I prefer to load 2 Race Caps with each meal 3 days prior to the race. At 3, 2 and 1 hour before competing, I take 2 Race Caps with 4 Enduro Caps each hour. Rest periods or tapering workouts pre-event are an absolute in order to allow the body tissue to saturate completely...then, when I most expect it...that which I have been paying for comes...**A PERSONAL BEST ON RACE DAY!** ■

Editor's Note: Coenzyme Q10 is the primary ingredient in E-CAPS' Race Caps formula. Each bottle contains 60 capsules with 75mg of Coenzyme Q10 in each, for a total of 4,500mg per bottle. After reading Bill's article, it should be clear to you that this product is not just for use on race days or during the racing season.

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assessment using a stationary bicycle ergometer. Then part of the group supplemented with 800mg of ciwujia. The findings of this test showed a 43% increase in fat utilization and a 12.4% increase in anaerobic threshold (AT) in the ciwujia group vs. the control group.

If these athletes had been even remotely fit at the time of this test, the 12.4% increase in AT would put them on the level of most elite athletes. Consider this; A top 20 age group triathlete or an Expert Mt. bike racer might have an anaerobic threshold of 172. If their AT increased by 12.4% that would put their AT at 193.3 beats per minute. With a 193+ AT and a 1/3 reduction in lactic acid production, that same athlete would be winning consistently as a pro. Are you beginning to see what is wrong with the Endurox research? Research is only as good as the protocol and the test subjects involved. Can we assume that Ed Burke is unaware of shortcomings of this research when he writes articles for Triathlete and other magazines who's readership consists of real endurance athletes? I think he is well aware of the gap between the Endurox research and reality, but is more interested in selling a product than providing useful information.

As far as I am concerned, there is no indication that this product has value to a serious endurance athlete unless they have several pounds of extra body fat they would like to get rid of. However, if that is the case, there are several other products with similar lipotropic actions that do not have the potential side effects in the higher intensity ranges. In addition, it is quite possible that the way this herb affects the body may in fact hinder the performance of real endurance athletes by causing premature cramping from impaired glycogen function.

If any you have any feedback on Endurox, positive or negative, please forward it to *Endurance News* to be included in the continued evaluation of this product. ■

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at a time, the rats became ill. When the sum of all three additives were tested at the same time, all the animals died within 14 days!

The crux of this awesome proposition is that we do not know what combinations of the organic with the inorganic will contribute to poor health, premature death, or for that matter what combinations will contribute to reverse the previous. The combinations of chain reactions should include moderation in dosage. Taking colloidal mineral supplements containing toxic metals in addition to the unavoidable intake from food sources and the environment may be more dangerous than healthful.

Minerals we know are absorbed when they chelate with their awaiting amino acid counterparts, within the walls of the small intestines (specifically within the villi). Dr. Hans Nieper of West Germany developed mineral transport carriers where a protein molecule bonds with a mineral in such a way that it is not altered by stomach acids, and goes directly through to the blood stream where it may be distributed to tissues as needed. Dr. Nieper found that orotates (a form of chelates) and arginates are the most effective since they have an affinity for and travel to the mitochondria for use

within the cell plasma. But, a word of caution, even the good minerals must be kept in balance. After a mineral enters the body, it must compete with other minerals for absorption. For example, zinc will deplete copper and calcium will affect magnesium uptake.

A balanced mineral intake is paramount to both absorption and use by the body. Intake of too much fiber will hinder the process of absorption or even the best mineral orotates and or arginates. Yet fiber such as pectin from apples is a superb source for scrubbing and binding the aforementioned toxic metals ingested in our food sources.

In the final analysis, I can say nothing positive about an element which the human body accumulates in major organ tissues, and even in micro-levels never de-accumulates without a chelating action removal.

Lead, like mercury, accumulates in human brain tissue, accelerating both aging and the dying process, even in trace levels. The FDA rules it at zero tolerance in water or foods and so do I. Whatever benefits in increased training and health which may be derived from Colloidal mineral supplements are not mitigated, in my opinion, by the disasters which may lie ahead for anyone ingesting even microtraces of lead and mercury on a prolonged basis. ■

Bill Misner, Ph.D., Holistic Nutrition



(DHEA DILEMMA from page 2)

supplement where more is not necessarily better. The ideal dosage for people age 30-50 is probably about 25mg/day while people in the late fifties to seventies could take about 50mg/day.

As a competitive athlete, assuming that you do not have cancer, the most important consideration in the DHEA dilemma is the ethical question. Are you willing to use a banned substance to gain a competitive edge or just keep up with the Joneses? If you rationalize taking a banned substance like DHEA, what's next, steroids, EPO? The IOC has banned DHEA because it is an "anabolic agent." Even though I know I will never be drug tested, I will not use any banned substances in training or competition. My feeling is that once you cross that line, that it becomes easier to justify the use of other banned substances. This position also allows me to sleep at night with a clear conscience knowing that my use of ergogenic aids is within the "legal limits." Before you start taking DHEA, you have to ask yourself the same questions.

Although this decision may be a costly one in terms of potential sales revenue, for now, I have decided not to offer DHEA as part of the E-CAPS product line. However, this decision is not set in stone because I feel that DHEA, used responsibly, may offer substantial therapeutic benefits for the aging population of this country. I welcome, and encourage your feedback on this subject. You can send your comments via e-mail to ecaps@e-caps.com or write to me at *Endurance News*. ■



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For further E-CAPS
information or to order products,
please visit our web site:

www.ecaps.com/supplements/

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months of using the minerals, her hair loss had almost completely stopped. In addition, she reports that the liver spots on the backs of her hands have faded noticeably in the six months she has been supplementing with colloidal minerals. I have also heard positive reports in other areas of improved health from numerous people who were not trying to get me to become a distributor in their organization.

At this point, I am inclined to believe that using the colloidal minerals for short periods or on an intermittent basis may be the most prudent approach. Maybe taking them for 4-6 months and then stopping or taking them 1-2 days a week. But I do feel that consistent, long-term use could be dangerous because of the accumulative buildup of toxic metals.

You can be sure that we will continue to research and discuss the topic of colloidal minerals in future issues of *Endurance News*. As always, your comments and feedback are welcome. ■

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. ■

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