

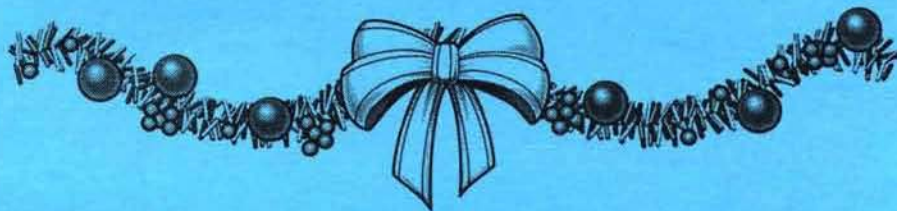
THE TRUTH ABOUT FRUCTOSE

Most people think that fructose is "fruit" sugar, a more healthy alternative to sucrose. While this is true of the sugar found in fresh fruit, the fructose and high fructose corn syrup (HFCS) found in most soft drinks, energy drinks and energy bars is not. It is a highly refined commercial sugar which is neither natural nor good for you. In fact, fructose consumption has been proven to raise blood levels of LDL cholesterol and triglycerides. It has also been linked to the rise in diabetes, heart disease, makes blood cells more prone to clotting, and it may even accelerate the aging process. Not to mention the fact if you are using it during exercise, it is almost certainly affecting your performance adversely.

Research Findings

Working with a grant from the International Fructose Association and the General Clinical Research Center grant from the National Institutes of Health, researchers performed a study on high fructose diets versus low fructose diets at the University of Minnesota. The study involved 14 otherwise healthy subjects who consumed

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PERSONAL FROM THE EDITOR

Welcome to the 11th issue of Endurance News. I hope you had a wonderful Thanksgiving and are enjoying the holiday season, as well as a brief respite from the rigors of training and competition. As for the E-CAPS family, we are looking forward to our first white Christmas in our new home in Whitefish, Montana. Although this move probably seems rather sudden to most of you, it has been something that I have been planning and dreaming about for several years.

There were so many reasons to make the move, both personal and business, that it was simply an inevitability. I am sure that you have all heard of the high cost of doing business in California and how so many companies are relocating to other states that are more business friendly. This is even more true for a direct marketing company. For example, a business license in California was \$550.00, versus \$70.00 annually for a business license in Montana.

As a direct marketing company, the biggest business reason for moving was the sales tax. Now, every customer in California will get a 7-8% savings on every order they purchase. And all of our customers in the other 49 states will also benefit from the reduced cost of doing business. It is truly a win/win situation

The personal reasons for moving had to do with wanting a simpler, slower paced life. Both my wife and I are California natives and I

guess that we are just city folks who had a dream of living in the country. And where better to live out that dream than in Montana!

At E-CAPS, your continued satisfaction is our top priority. This move has lowered our overhead and the cost of doing business in general. This will help us avoid passing on the constantly rising price of materials, paper and shipping to you. Most of you may not realize it, but we have not increased any of our prices in almost 7 years! We could not keep absorbing these cost increases so it was either raise prices or reduce overhead.

This move also represents a major step forward for E-CAPS because now I will be able to finish developing several new products to add to the E-CAPS product line. We will also be devoting more time than ever to Endurance News to provide you with an even more valuable information and education resource so you can get the straight scoop on all that is happening in the world of nutrition and supplements.

As always, we welcome your comments, and enjoy hearing about your training & racing successes. Have a merry Christmas and a wonderful, prosperous new year full of success. ■

Warmest Regards,

A handwritten signature in black ink that reads "Brian Frank".

Brian Frank, EN Editor

CHROMIUM SCARE



Based on a recently published study, establishment media outlets such as the *New York Times*, *USA Today*, and *CNN* have been making quite a big deal about the potential danger of taking chromium supplements. *Velo News* even picked up the story.

Even though most of you have probably already heard or read about this story, I felt it was essential to add some important, but unreported details. The study was performed jointly by researchers at Dartmouth College and George Washington University Medical Center. It's purpose was to test the ability of chromium supplements to damage the DNA in hamster ovary cells. The results indicated that extremely high dosages of chromium picolinate caused extensive chromosome damage. The researchers have stated that this was caused by the tendency of picolinate to penetrate the cell walls and consequently damage DNA.



Here are a few important points that most of these stories have failed to mention and you may not be aware of:



1. Three types of chromium were tested and only chromium picolinate was found to cause chromosome damage.
2. This study found that niacin-bound chromium nicotinate (Chromemate® such as sold by E-CAPS - U.S. Patent #5, 194,615) did not cause any chromosome damage. Chromium chloride did not cause any damage either.
3. The study also showed that Picolinic acid alone caused chromosome damage. Conversely, it showed that chromium (chromium chloride) alone did not.
4. The study demonstrated that Chromemate was absorbed almost twice as well as chromium picolinate.
5. According to John Hathcock, Director

of Nutritional Science at the Council for Responsible Nutrition, the study results were based on dosages that were 6,200 times higher than those that result from taking an oral chromium picolinate supplement.

6. Richard Anderson, a chromium expert at the U.S. Department of Agriculture, says that in a recent study he found no toxicity using chromium picolinate at levels 10,000 times higher than the maximum recommended intake. Furthermore, he was recently quoted as saying "Levels of chromium picolinate which induced chromosome damage in the (Dartmouth) study were not reasonable based on physiological levels."

The bottom line here is that while the findings of this study are certainly cause for concern, they have been way overblown. If you have been taking a supplement with chromium in it, check to see which type it contains. If it contains chromium picolinate, unless you have been consuming several hundred tablets or capsules each day, you probably have nothing to worry about. However, you should still switch to a chromium polynicotinate (Chromemate®) supplement because of its improved bioavailability and safety. This will allow you to avoid the possibility of chromosome damage at any level of intake.

Please understand that this is not a pitch for you to buy Chromemate® from E-CAPS. Chromium supplements containing Chromemate® are available at almost any health food store or GNC in the United States. Whether you purchase it from one of these retailers or E-CAPS is your choice. The point is that Chromemate® is a superior, 100% safe form of chromium which offers tremendous benefits and should not be avoided as a result of this study. ■



SUBLINGUAL XOBALINE

New Taste, Same Great Product

In the last couple of months several customers have commented on the change in the taste of E-CAPS' liquid XOBALINE. Some have even voiced concern that the absence of the usual tangy, tart flavor might in some way reduce the effectiveness of the product. For those of you who have noticed the change, rest assured that it was intentional and has not affected the bioavailability of the product in any way. In fact, the "new" taste is actually our original formula.

When the original XOBALINE formula was being developed, we knew that the process of dispensing the liquid in a dropper, placing it in the mouth and then holding there for 60-90 seconds would be a real impediment to athletes using the product regularly. So we felt it was important to have it taste as good as possible. What we came up with was a very pleasant, sweet, wild cherry flavor that tasted great and subsequently made it easy to hold in the mouth for a minute or more. The reason for going to all of this trouble is that Cobamamide, the active ingredient in XOBALINE, is very unstable and tends to be absorbed better orally rather than intestinally.

However, due to the fact that the product contains some alcohol, it is regulated by the BATF (Bureau of Alcohol, Tobacco & Firearms). During a routine inspection, an overzealous agent sampled the XOBALINE and thought it "tasted too good" for a product containing alcohol. It seems he

was concerned that a child might get hold of a bottle and drink it. Even though we pointed out the fact that a child would have to drink several bottles to be affected by the alcohol, the agent insisted that we modify the flavor to make it less palatable.

After all of the development and the wide acceptance of the product by the athletes using it, we were forced to modify the formula so it would have a flavor that would discourage children from drinking it. The solution was to add a semi bitter, tart, tangy flavor. This seemed to satisfy the BATF agent, but now we had to convince the customers who were accustomed to the

mild, sweet XOBALINE flavor that the new product we were shipping had not fermented or gone bad. We had quite a few bottles returned because customers presumed that something was wrong with it.

To bring the story full circle, last summer we submitted a sample of the original XOBALINE formula for routine inspection and received approval. Thus, the decision was made to go back to the original "sweet" formula. However, there is no guarantee that at some point in the future we won't be forced to change it back to the bitter version.

Capsules vs. Liquid?

With all of this talk about sublingual XOBALINE, some of you may be wondering about the

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NEWS FLASH

You, the readers of Endurance News are the first to hear about a whole new line of carbohydrate and protein supplements that will offer truly healthy products instead of the "Junk Food" energy drinks and bars that you are currently being offered by other companies. These products will be marketed under my new label Hammer Nutrition, Ltd.

In 1987 E-CAPS led the world in the use of micro nutrient formulas to naturally increase athletic performance. Beginning in 1996, Hammer Nutrition, Ltd. will lead the market by offering carbohydrate and protein energy products free of refined sugars, chemicals and other harmful ingredients that hinder performance and compromise the health of the athlete using them.

The first Hammer Nutrition product will be on the market in January of 1996 and is called Hammer Gel. It is a carbohydrate syrup made from maltodextrin and a patented natural sweetener consisting of fruit juice and grain dextrins. This product will give you a longer lasting boost of energy, about 60-70 minutes, won't cause a bonk when it runs out and will not cause any of the negative side effects associated with refined sugars, namely fructose, found in most other

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PROOF THEY AREN'T BAD FOR YOU

I hate to say "I told you so", but what I have been telling athletes about eggs for years has finally been confirmed by the American Heart Association and printed in the 11/27/95 issue of TIME magazine. Ever since cholesterol became a big issue, experts have said that eggs should be avoided as

"The findings of a recent study confirmed that eating eggs does NOT significantly affect cholesterol levels."

part of a cholesterol lowering diet. It seems that most athletes have been avoiding them too. Unfortunately following this advise robs a person or athlete of the most perfect source of protein known to man.

The findings of a recent study confirmed that eating eggs does not significantly affect cholesterol levels. The study involved 140 people who were given two eggs a day in conjunction with a healthy diet low in saturated fats. At the conclusion of the study, their cholesterol levels had risen only slightly and half of the increase was HDL cholesterol. That's the good kind. For those of you who are really worried about LDL cholesterol levels and triglycerides, be sure to read the article on fructose in this issue.

This study and other research supports the contention that cholesterol levels are determined predominantly by hereditary factors. That is not to say that diet or fat intake are irrelevant. If you have already been diagnosed with high cholesterol, or have a family history of high cholesterol, of course you should watch your diet and avoid fatty, rich foods and shell fish. But some people who eat a healthy diet and exercise regularly, are still going to have high cholesterol levels according to the established norms. And conversely, there are people out there who can eat all of the junk they want and never

exercise without developing high cholesterol. They may suffer a wide variety of other health problems as a result of poor diet and or lack of exercise, but I doubt that any of you fall into this category.



So, what does all of this mean to you? Well, unless you are a strict vegetarian, or have some other philosophical reason for not eating them, eggs should be included as a regular part of your diet. I don't know about two a day, but I think that you might eat 6-8 whole eggs (not just the whites) each week to provide your body with the much needed, high quality protein. ■

HEALTHY RECIPES?

In the first 10 issues of Endurance News we featured

a section called "Healthy Recipes." Sonia spent quite a bit of time putting

some of her favorite dishes (they were all made from scratch) into recipe form and calculating the nutritional data. If

you enjoyed these recipes and actually used

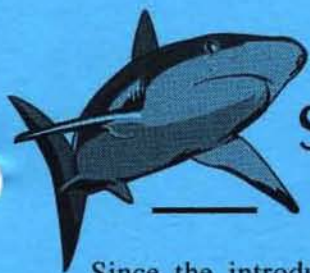


them, we will be happy to keep it as a regular feature. If not, we can save Sonia some time and use the space for articles that are of greater interest to you.

Please drop us a line with your comments on the recipes.

Mail to:

ENDURANCE NEWS
"Recipe Comments"
P.O. Box 4010
Whitefish, MT 59937



SHARK CARTILAGE UPDATE

Since the introduction of E-CAPS' Shark Cartilage, see EN #10, we have had a flood of testimonials from customers who have received tremendous pain relief from this product. Most have reported total cessation of pain in the ankle, knee, hip and other joints. If you are like so many athletes, you know how frustrating it is to have to deal with aching, stiff joints after hard workouts. Most athletes just take a couple of anti-inflammatory drugs (ibuprofen, etc.), get the ice pack out of the freezer and hope it takes the pain and discomfort away. Unfortunately, this solution is temporary, does nothing to treat the cause of the inflammation and regular use of anti-inflammatories can be very dangerous. Now, shark cartilage offers athletes who suffer from sore, aching joints an alternative which is safe, does not have any negative side effects and works by actually improving the vitality of the joint tissue. If it happens to strengthen your immune system and reduce your risk of cancer, that would just be an extra bonus!

Shark Cartilage is ideal for athletes because of its high concentrations of mucopolysaccharides. Research has shown the importance of mucopolysaccharides for nourishing the joints, synovial fluid, connective tissues, and muscle fibers. As I am sure you have noticed, strenuous athletic activity causes muscle, joint, and connective tissue to break down throughout the body. Mucopolysaccharide-rich shark cartilage is the

best way to help your body repair these tissues and improve their ability to handle strenuous activity. Thus, you address the cause of the pain and inflammation directly instead of just masking the symptoms.

Over the past several years, shark cartilage has been touted by the holistic community as a breakthrough in prevention and treatment of degenerative diseases. In fact, it is the first natural product (non drug) to be granted a full I.N.D. (Investigative New Drug application) by the Food and Drug Administration. This precedent is due to its potential for cancer prevention, cancer treatment, tumor reduction, immunoregulation and anti-inflammation. In fact, shark

“Shark cartilage offers athletes who suffer from sore, aching joints an alternative which is safe, does not have any negative side effects and works by actually improving the vitality of the joint tissue.”

cartilage is the object of intense clinical study and is being widely prescribed for all types of degenerative diseases in countries all over Europe and Asia. Despite these facts, “experts” in this country are very reluctant to acknowledge the potential value of shark cartilage to millions of Americans suffering from degenerative diseases and the side effects of the drugs currently prescribed to treat them.

Although hundreds, possibly
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NSAIDs

Millions of Americans rely on NonSteroidal Anti-Inflammatory Drugs, NSAIDs, for temporary relief from aches, pain and inflammation. Unfortunately, regular use of aspirin and other common non-aspirin NSAIDs, such as Ibuprofen (Advil), Motrin, etc., can cause negative side effects such as stomach ulceration, bleeding or perforation of gastrointestinal tissue resulting in death in some instances. In fact, thousands of Americans die each year of NSAID related hemorrhages. If taking these products causes you upset stomach or other side effects, try to avoid them if at all possible.

The FDA is well aware of the risks of NSAIDs because their own Arthritis Advisory Committee has, since 1988, been calling for new labeling for these drugs. The proposed labeling guidelines would caution users of the risks of ulceration, bleeding, and intestinal perforation. So far, the FDA has not taken any action on their committee's recommendations.

The information discussed above regarding NSAIDs is only the tip of the iceberg. If you are one of the millions of Americans using NSAIDs under the impression that they are completely safe, you owe it to yourself to do some more research of your own on NSAIDs in your local library. ■

(SHARK continued from page 5)

thousands by now, of clinical tests have already been published, they have not examined the use of shark cartilage to relieve joint pain caused by athletic activity. Never the less, the inflammation and discomfort that so many athletes experience mimics the symptoms of people suffering from degenerative diseases such as arthritis. So, it not irresponsible to extrapolate from this clinical data that shark cartilage can benefit injured athletes. And again, the anecdotal evidence coming in from athletes all over the country who are getting off of harmful anti-inflammatory drugs and exercising pain free for the first time in years further supports this theory.

Today, standardized shark cartilage formulas are available from several different companies and are sold in health food stores and some vitamin catalogs. However, because of the interest surrounding shark cartilage and its therapeutic applications, most outlets are charging astronomical prices for this product. E-CAPS' certified purity and potency Shark Cartilage is formulated in 750 mg cap-

sules. Each 100-capsule bottle sells for \$24.95. Believe it or not, I have seen similar bottles selling for as much as \$80.00! I would encourage comparing brands and prices, just be sure to look for percentages of mucopolysaccharides and protein on the ingredient labels. In most cases, the higher the %'s, the better the product. E-CAPS' Shark Cartilage is higher than most and is guaranteed to contain at least 23% mucopolysaccharides and 35% protein.

Recommended initial dosages for shark cartilage are 1-750 mg capsule per 11 pounds of body weight for 3-4 weeks when inflammation is chronic. After the initial saturation period, dosages can be reduced to 1-750 mg capsule per 30 pounds of body weight. When inflammation is intermittent use the 1 per 30 pounds until it subsides. However, we have had numerous reports from athletes who have been able to achieve pain relief with as little as 2-4 capsules per day. As with any product, you will need to experiment with different dosages to find what works best for you. ■

(XOBALINE continued from page 3)

XOBALINE capsules. The XOBALINE capsules employ a delayed release process with the main appeal being the convenience of simply swallowing a single capsule. This takes the hassle out of using this product. However, even with enteric resin coating which prevents the Cobamamide from being broken down prematurely in the stomach, the sublingual method of absorption is more efficient.

How much more efficient? Probably no more than 15-20% of the active ingredient is lost in the capsule formula. So, if the routine of the sublingual XOBALINE discourages you from taking it, then 75 or 80% of 5 mg is better than none at all. That is why E-CAPS offers XOBALINE in both liquid and capsule form so that our customers can choose between convenience and maximum efficiency

Note:

To pronounce XOBALINE correctly, say the x like a "z", followed by a long o sound. ■



(NEWS FLASH continued from page 3)

gels, energy drink and bars. It will also be priced 30-40% less than the other gels.

Before Hammer Gel is offered to the general athletic population, it will be offered at a special intro-

ductory price to all of our current E-CAPS customers. Free samples will also be available with any E-CAPS order or by mailing a postcard to P.O. Box 4070, Whitefish, MT 59937.

Look for more information on Hammer Gel in the next issue of Endurance News and your special offer in the mail sometime in January. ■

(FRUCTOSE continued from page 1)

adicts containing either 20% of its calories from fructose or 20% from starch. The study ran for 28 days, then crossed over and ran for another 28 days.

At the conclusion of the study, the subjects eating a high fructose diet had blood serum levels of LDL cholesterol 8-11% higher than the high starch group. Triglyceride levels also increased. Oddly enough, the researchers concluded that it was a high starch diet that had caused cholesterol and triglyceride levels to decrease and not that the high fructose diet caused them to rise. Maybe the source of the grant for the research had something to do with the way they analyzed the outcome.

If the results of this study are not enough to get you to avoid fructose and HCFS whenever possible, the findings of another study will. This study looked at the connection between high fructose levels, copper deficiencies and heart disease. The study was performed at the USDA's Research Center in Beltsville, MD by Dr. Norman Steele. The findings were published in the May 1991 issue of Science News. According to the USDA Research Service, the average American diet contains only about half the copper that would be considered adequate. It was on this premise that this research study was based. This deficiency is a direct result of commercially farmed and highly processed foods in our diet.

The study involved pigs that were given either a copper deficient diet or one with adequate copper content. Some pigs from each group were given high amounts of fructose and others were fed a diet with high levels of another sugar. Initially, the only signs of any health problems were abnormally low levels of copper-

containing enzymes in their blood. However, when the pigs were sacrificed after 10 weeks on the high fructose/low copper diet, their hearts had abnormally enlarged to twice the size of the hearts of any of the other pigs. That's right, twice the size!

Dr. Steele believes that this abnormal cardiac damage was the result of several key factors. First, the animals with damaged hearts had extremely low levels of two important enzymes. One enzyme is essential in building the connective tissue that bind the heart muscle together, while the other protects cells by scavenging toxic metabolites. Another cause was the high levels of iron found in the cardiac tissue. This can cause cell membranes to erode. The last factor, and most interesting for us athletes, was the large amounts of lactic acid created by the fructose. The lactic acid in turn damaged cardiac muscle protein, causing it to harden almost like rigor mortis.

You probably find this information very alarming, however this is the real kicker: The study on pigs was initiated because an earlier study on humans had to be stopped. The human study sought to compare a diet high in fructose versus a high cornstarch diet on volunteer subjects. The study was stopped when several of the volunteers developed temporary, but potentially severe, heart related medical conditions.

Now that you have an idea of the potential dangers of consuming fructose and high fructose corn syrups, lets take a look at how much is being consumed in this country. According to the USDA the average American consumed just 1/2 pound of HCFS per year in 1970. By 1993 that figure jumped to 55.3 lbs. per person. While our consumption of sucrose dropped

from 100.8 lbs. to 64.5 lbs. during that same time, our overall consumption increased to 143.3 lbs. of sugar each year.

As an athlete, even if you avoid soft drinks and candy, you are probably still getting large doses of fructose of HCFS's in your daily diet. Today it is found in common foods such as some brands of pasta, breads, beer, "natural" beverages such as Snapple and just about every energy drink and bar on the market. Fructose is also found in all of the carbohydrate gels such as Squeezy, GU!, Pocket Rocket and Relode.

Judging by the sales of these three types of energy products to endurance athletes like you, this is a big problem. The fructose and HCFS you are now consuming is almost certainly having detrimental effects on your health and may very well be negatively affecting your performance in training and races. The more you rely on this type of sugar during extended exercise periods, the more problems it is likely to cause. That is why so many athletes get sick in ultra distance events like the Ironman.

So, now that you know about the dangers of fructose, what can you do about it? READ INGREDIENT LABELS!! Check the ingredients on everything you buy, especially energy products. Avoid any that contain fructose or HFCS whenever possible. The only energy bars that I know of which do not contain fructose are Clif Bar and BTU Stoker. E-CAPS' Energy Surge drink mix also does not contain any, and when Hammer Gel is available in January, it will be the only carbohydrate gel that we know of which does not contain fructose.

Look for more articles on fructose and HFCS in upcoming issues of Endurance News. ■



THE NEW GUY AT E-CAPS

I'd like to introduce you to Dustin Phillips, from Polson, Montana. He has taken over the job of office manager from Jason Cole, who stayed in California to finish his college degree in administration of justice.

Dustin races for the local team up here, Flathead Velo, and is a cat 3 on the road and races in the expert class on mountain bikes. We are thrilled to have another hard-core athlete in the office to interface with our customers.

Be sure to say hi to Dustin next time you call.

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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