

# ENDURANCE NEWS #24

## THE NEW TISSUE REJUVENATOR FORMULA

### INTRODUCING, THE NEW TISSUE REJUVENATOR...

One of the most popular injury-repair products on the market for overuse or traumatic soft tissue repair is **TISSUE REJUVENATOR**! Why would we change a superb formula that has worked so well for so many? The Answer is...to make it the strongest natural tissue-repair supplement formula on the market today!

Each of the new formula changes are indicated in ***\*bold-italics*** below, with the research-rationale for each to follow.

#### **\*THE NEW TR FORMULA CHANGES:**

Each 3 capsules contain: (previously based on 2 capsule dose):

<b>*Vitamin C (as ascorbic acid)</b>	<b>90 mg</b>
<b>*Glucosamine Sulphate (was 250 mg/capsule)</b> (as glucosamine sulfate potassium)	<b>1,125 mg</b>
<b>*Chondroitin Sulfate (was 32.5 mg/capsule)</b>	<b>187.5 mg</b>
<b>*MSM (as methysulfonylmethane) NEW!</b>	<b>300 mg</b>
<b>*DL-Phenylalanine (was 65 mg/capsule)</b>	<b>187.5 mg</b>
<b>*Enzyme Blend (As peptidase &amp; bromelain conc.)</b> (was 100 mg/capsule)	<b>150 mg</b>
<b>*Green Lip Mussel (was 32.5 mg/capsule)</b>	<b>45 mg</b>
<b>*Turmeric Seed (Curcuma aromatica) NEW!</b>	<b>45 mg</b>
<b>*Quercetin NEW!</b>	<b>30 mg</b>
Synergistic Herbal Complex (Same) (Boswellia Gum, Horsetail Herb, Licorice Root, Yucca Root & Devils Claw Tuber)	225 mg

### A RATIONALE FOR THE NEW TISSUE REJUVENATOR (TR)

**VITAMIN C** is new to TR. The synergistic activities of Vitamin C for rebuilding tissues mandates for rapid cellular restructuring. Vitamin C is a major player in adrenal functions, acts aggressively as a super antioxidant (free-radical scavenger), helps control and reduce cholesterol, lowers high blood pressure, and absorbs metabolic wastes. The rate of healing at the cellular level may be in direct proportion to the availability of Vitamin C. Vitamin C supplementation decreases oxidant processes during recovery, but not during exercise itself, according to Finnish research. (J Sports Med Phys Fitness 1998;38:281-5.)

### METHYLSULFONYLMETHANE (MSM) is new to the TR formula.

MSM is an organic sulfur derived from the ocean. Dr. Stanley Jacob of Oregon Health and Sciences University discovered MSM by heating DMSO or (Dimethyl Sulfoxide) causing it to crystallize into MSM. Methionine, an essential amino acid, and cysteine are the major sulfur-containing amino acids in the body and both are thought to be synthesized predominantly in plants and microorganisms.

"MSM is a natural constituent of the environment in which it is found in plants, in milk and urine of both bovines and humans, is a normal oxidation product of dimethyl sulfoxide (DMSO) also in the natural environment and is a part of the natural global sulfur cycle." (Richmond 1986) Many of the Organic Sulphur plants such as onions, brussel sprouts, garlic, asparagus, legumes, and grains lose their volume of organic sulphur when processed, cooked, or with the passage of time in transit.

This white, pure, odorless crystalline powder has no unpleasant taste nor causes gastric distress and is not related to Sulfa Prescriptive Medicines.

Organic Sulphur may relieve systemic inflammatory conditions such as Arthritis, Soreness, Muscle Cramps, Allergy Reactions, Cholesterol Plaque Deposits, Gastric Parasite Infestation, Constipation or Diarrhea, Cataract Reduction, Nausea, and Hyperacidity. As with many new Natural Health Supplements it may only work effectively on those individuals whose bio-

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## SPRING TRAINING ISN'T JUST FOR BASEBALL PLAYERS

by Nate Llerandi

By now you've hopefully laid a pretty good aerobic base through the past winter. Looking ahead to those late Spring/early Summer races, now is the time to start intensifying some of your workouts. It's easy to get excited for your upcoming races and want to start the season on a good note. But try to avoid the temptation to vault right into interval training. Most athletes will want to peak for their major racing test in the late summer or even the fall. If this is the case, then your goal should not be to be 100% fit for your early races.

Your fitness does one of two things: it increases or it decreases. It is never static; it does not plateau. If you're 100% ready in the Spring, then you've got no place to go but down! With that said, the following are my recommendations for spicing up your training after what may have been a long winter of indoor training and for preparing yourself for those early races.

**Bump up the Heart Rate (HR).** For four weeks, once or twice per week (for single-sport athletes) or once per sport (for multi-sport athletes), you need to boost your effort during workouts. Most of what you've been doing to this point should have been in the 70-75% range - the optimal zone for maximizing your aerobic fitness, the foundation of any successful training plan. On the designated "hard" training days, prolonged efforts in the 75-84% range are the first step to getting race ready. In swimming, hard sets should total about 20-30 minutes in this range, with minimal rest between repeats (up to :30). In biking, start with 30 minutes continuous in this range, and every week increase your time until you are doing an hour straight at 75-84%. For running, begin at 15-20 min-

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# Human GROWTH HORMONE (hGH)

I favor the use of natural human Growth Hormone (hGH) activities as induced by exogenous supplemental means, such as Glycine, Ornithine-alpha-ketoglutarate, 5-Hydroxytryptophan, and Arginine.

However, I do not favor the use of stimulants, steroids, or adaptogenic substances, which have been shown to raise excitatory hormones and/or elevate human Growth Hormone unnaturally when the body is not well equipped to metabolically dispose of excess hGH.

GH release in the body is controlled by the pituitary gland. Unlike other hormones, hGH affects almost every body tissue. It is a master hormone controlling many organs and body functions and is directly responsible for stimulating tissue repair, cell replacement, brain function, and the enzyme function. Real Growth Hormone produces a minimal of +8.8% higher rate of lean muscle mass growth with an increased rate loss of -14.4% body fat, even in males older than 60 in comparison to their normal rate of growth. (Rudman 1990) Crist (1988) found the same relative percentage gains to occur in elite level younger athletes.

GH is naturally produced by our bodies in abundance when we are young, and its production gradually slows over time. While GH is not new, its availability as a supplement has been limited. As we get older we do not respond the same way to hGH as when we were young. When specific, typical micronutrient depletion occurs in many athletes 35-40+ and up, the biological activity of certain enzymes increases normal testosterone levels and other pituitary hormones on occasion, affecting glandular dysfunctional responses systemically. Add to an aberrant formula pending toward hormone imbalances more of the hGH it least likely needs, resulting in a worse scenario than if not ingested at all.

Buckwalter (1997) noted, "Trophic hormone replacement or supplementation may also modify age-related changes in the soft tissues, including loss of strength, but these hormones have adverse effects. Systemic or local use of growth factors and cell transplantation after expanding the population of mesenchymal stem cells in culture could improve healing in older people.

Other potential methods of slowing or reversing age-related deterioration of the soft tissues include inhibition of posttranslational modification of matrix proteins and alteration of the activity of selected transcription factors. In particular, better understanding of the role of transcription factors in cell sequence may make it possible to devise methods of delaying or reversing age-related loss of cell proliferative and synthetic capacity."

If this product mentioned in "Muscle Mag" really does raise human Growth Hormone levels for an anabolic growth response, what are its prolonged effects on health? One of the foremost sports scientists, Dr. Michael Colgan, Ph.D. stated, "The downside of using human Growth Hormone is worse than using synthetic Anabolic Steroids." (Colgan 1993) At each age, the human physiological being is DNA-time releasing the growth hormone levels tolerable for natural requirements for that specific being with individual peculiar metabolic balance. Natural human Growth Hormone (hGH) is elevated during exercise, sleep, and in the dietary introduction of certain amino acids. When an unnatural extraordinary hGH response is induced by IV or exogenous means, serious compromise to intracellular health may occur evoking carcinogenic or mutagenic activity to those so predisposed.

However, some in the population may suffer no ill effects at all. The question remains as to how the product effects blood serum hGH or Testosterone: Epitestosterone levels. If a review of both their website and the article produced any individual peer-reviewed research or supplement contents from a labelled ingredients list, it was not apparent to me. If it works as stated, it could be harmful to some athletes; if it

doesn't work as stated, then someone is deceiving the public, again. ■

## REFERENCES

Rudman, D. et al., "Effects of human Growth Hormone in men over 60 years of old," NEW ENGLAND JOURNAL OF MEDICINE, 1990;323.1.

Crist, D.M. et al., "Body composition response to exogenous GH during training in highly conditioned athletes," JOURNAL OF APPLIED PHYSIOLOGY, 1988; 65:579.

Buckwalter, J.A., "Maintaining and restoring mobility in middle and old age: the importance of the soft tissues," INSTR COURSE LECT, 1997, 46:459-69.

Colgan, M., OPTIMUM SPORTS NUTRITION, Advanced Research Press, New York, 1993; pages 324-325.

The hGH Supplement Website:  
[http://www.musclemagonline.com/proshop/life\\_span.htm](http://www.musclemagonline.com/proshop/life_span.htm)

## NEWS from DR. BILL

### ONLY A FEW COPIES LEFT

Dr. Bill has signed the remaining 128 copies of his book for those of you who have not purchased your copy of NUTRITION FOR ENDURANCE: FINDING ANOTHER GEAR. This 287-page, colorful treatise unlocks the the latest supplement secrets, plus all the nutritional dietary DOs and DON'Ts for maximizing your endurance performance goals. The remaining copies are not expected to last long.

### ENDURANCE LIST FLOURISHES

A internet free "chat" group that is sponsored for our customers may be one of the best "free" offers on the internet. Over 149 E-CAPS and HAMMER NUTRITION customers are presently active in discussing health, nutrition, equipment, travel expenses, and all the what-to-do-when scenarios that may contribute to a better endurance performance. Several professional panel experts from multiple backgrounds are available to discuss with you at no cost your every concern or question.

To join this list of endurance athletes, E-mail to:  
[endurance-request@MailingList.net](mailto:endurance-request@MailingList.net)  
Leave the subject line blank and in the body write "subscribe" without quotation marks.



# DOES COLA AID ATHLETIC PERFORMANCE?

by Dr. Bill Misner, Ph.D.

The answer to this question is; apparently not. For example, when Joe Falcon (University of Arkansas) was told that the fizz-water in the soft drink he regularly consumed was hindering his pursuit of a personal performance-best, he immediately ceased drinking "The Real Thing," Coca-Cola...Then three weeks later he set the American Record for the 1500 meter run in Oslo, Norway!

Statistics show that on average Americans drink around 40 liters of the lip-smacking liquid a year. So, what is really in it?

**WATER:** Almost 90% of cola is carbonated water. Unexceptional stuff, although cola is a good bet in countries with poor drinking water. Adding carbon dioxide to water produces carbonic acid which, although weak, can erode teeth.

**SWEETENER:** Normally sugar, about 35 mg in a 330 ml-ca, equivalent to seven teaspoons in a mug of tea. This packs some 140 Calories. "Cola is an archetype of the 'empty calories' products," says Jack Winkler of Action and Information on Sugars. "Cola is a significant source of calories with no nutritional value."

It has been argued that cola raises blood sugar levels and so decreases your appetite for more nutritious foods. What's more, sweeteners may impair the body's appetite control. Sugar is also the great teeth rotter. "Don't drink cola frequently between meals," says Winkler, "Your saliva doesn't get a chance to fight back to protect your teeth."

Sugar free colas don't let your teeth off the hook, either. "All colas are acidic and have the potential to erode teeth," says Dr. Peter Gordon, scientific advisor to the British Dental Association. Diet colas contain arti-

ficial sweeteners, mainly aspartame (Nutrasweet). In the USA, sweetener packets with Nutrasweet contain carcinogenic warnings.

**FLAVORINGS:** Phosphoric acid balances the cola's sweetness to provide the characteristic tart taste. This acid is so strong you can clean a toilet with it or dissolve a tooth in 48 hours.' Says Janet Thorn, senior lecturer in nutrition at Oxford Brookes University. Phosphorus has a tendency to bleach calcium stores from the bones in order to maintain blood serum minimum levels.

**STIMULANTS:** Between 40 mg and 60 mg of caffeine are added to each can (a cup of instant coffee contains 60-65 mg). "I think the presence of caffeine is slightly sinister because it's added as a stimulant," says Ian Shaw, Professor of Toxicology at Central Lancashire University.

**COLORING:** The brown color comes from caramel, basically burnt sugar, which has a bitter taste. Caramel is widely used in soft and alcoholic drinks, sauces and canned meats. There have been suggestions that it is carcinogenic and causes white blood cell problems in animal tests.

**CONCLUSION:** "Colas are basically an expensive way of buying sugared water," says Janet Thorn, and I definitely agree. But what's even worse is colas may be hindering optimum performance and robbing your body's calcium stores at the same time.

For anyone concerned with optimal health and especially athletes hoping to achieve peak performance, limiting or eliminating fizz-water and colas is a wise choice. ■



## HAMMER GEL UPDATE

### PRICE INCREASE:

It has been over two years since Hammer Nutrition first introduced the eco-friendly and truly economical bulk jugs of Hammer Gel. Due to increases in material costs and increasing transportation charges, it is necessary to make a small increase in the price. So, effective 6/1/99, the price per unit of one or two jugs will increase to \$14.00. However, if you purchase 3 or more the price will remain at \$12 each. The single serving price will increase from 46.1 cents to 53.8 cents. Still a bargain compared to \$1.25 or more per serving of Gu or Powergel.

### HOW MANY FREE FLASKS?

I believe we have covered this issue before, but for the sake of all our new customers and as a refresher for our long term customers, here is our policy on free flasks: We will provide each customer with approximately 4 or 5 free flasks. After you have received these, additional flasks will not be sent automatically when you order more jugs. However, if you are ordering jugs and flasks for other people, please let us know so we can be sure to provide enough flasks to distribute to your friends. Also, if you should happen to lose one or one wear out, let us know and we'll replace it. If for some reason, you'd like to have several flasks for your personal use, you can purchase additional ones for the extremely reasonable price of \$1.00 each.

### COMING TO A RETAILER NEAR YOU

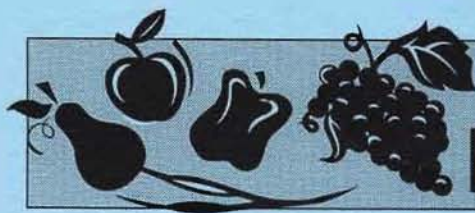
This year we have decided to make a concerted effort to distribute Hammer Gel, and eventually more Hammer products, through retail outlets such as bike shops, running stores and outdoor specialty stores. Shortly after you receive this issue of *Endurance News*, we will have point of purchase displays, dealer specific brochures and updated labels on the jugs.

If you'd like to be able to pop down to your favorite bike shop or running store and pick up a jug of Hammer Gel, instead of having to pay \$5.95 or more in shipping charges to order it by mail, let us know. If you provide us with the name, phone number, and address if possible, of your favorite store, we'll send them a dealer information kit and samples.

### FLAVOR NAME CHANGE

We have decided to change the name of the "Unflavored" Hammer Gel to "Plain." The Unflavored name was just not accurate. Many customers would ask "What does the unflavored flavor taste like?" This question would arise from the fact that a product like this must have some taste. After all, only pure water really has no taste. Hopefully, the "Plain" name will give customers a better idea of to expect from this flavor. ■





## NUTRITIONAL DOs and DON'Ts



### INTRODUCTORY COMMENTS

*There is some excellent down-to-earth practical advice on what makes a healthy diet from CSPI's 1996 article on 12 Nutritional DOs & DON'Ts. You have all heard me go on-and-on about each of these principles...Now you will hear them from their chosen nutritional "Guru," Bonnie Liebman. This is an excellent article I heartily recommend we apply to the "Training Table."*

"What do you recommend? What should people eat? How do you boil down nearly 20 years of research on diet and disease into a simple answer? There's no point in saying "get less than 30 percent of your calories from fat, less than 10 percent of them saturated, no more than 2,400 milligrams of sodium a day, blah, blah, blah..."

People eat food, not numbers.

One approach is simply to move towards a plant-based diet. Most "DOs AND DON'Ts" will nudge you in that direction.

**#1- DON'T** eat ground beef and other fatty meats. Red meat is the largest source of fat and saturated fat in the average American's diet. The saturated fat alone makes it Heart Disease Enemy No. 1. Among the fattiest are ribs, bacon, and sausage. But the worst is ground beef...because we eat more of it than any other red meat.

Unlike many meats, you can't trim the fat off hamburgers. And, despite the deceptive "80 percent lean" claims on some ground beef packages, you can't buy truly low-fat ground beef. It may not sound fatty, but the remaining 20 percent fat is enough to CLOG your arteries.

If life without burgers just isn't worth living, try ground turkey breast. As long as it doesn't contain any skin, you can eat it 'til the cows come home, so to speak. Or try a Green Giant Harvest Burger, a Gardenburger, or some other

veggie burger.

**#2- DON'T** eat even lean red meat more than THREE TIMES/week. Yes, lean meats have less saturated fat. But there's no "Nutrition Facts" label on packages of fresh meat (or poultry or seafood), so there's no way to tell how fatty they are.

What's more, a growing body of evidence suggests that even lean red meats, but not poultry or seafood, may increase the risk of colon and possibly prostate cancer. So if you're not a meat-eater, stay that way. If you are, limit yourself to three times a week (that includes lunches) and make it the leanest choices, like a roast beef sandwich or low-fat hot dog.

**#3- DO** eat "PLANTS-ONLY" dinners at least THREE TIMES/week. "Plants-only" means no meat, seafood, poultry, cheese, or eggs. It's not that those foods are necessarily harmful. It's that they crowd the vegetables, beans, and grains off (or nearly off) your plate.

Eating more plant foods—especially vegetables—may reduce your risk of a host of cancers, including colon, lung, stomach, mouth, throat, esophagus, pancreas, and bladder. And it can help lower your risk of heart disease and stroke to boot.

What's left when the meat, fish, and poultry vacate the plate? Plain old spaghetti with tomato sauce or pasta primavera (pasta with sautéed vegetables) are good options. But you'll also need some bean dishes to replace the nutrients in meat. Suggestions: bean burritos, lentil soup & salad, tofu & stir-fried vegetables over brown rice, or soy-based veggie burgers (like Boca Burgers).

**#4- DO** make ALL your snacks FRUITS and VEGETABLES. The National Cancer Institute recommends that people eat at least 5 to 9 servings of fruits and vegetables a day. The

phytochemicals, fiber, folic acid, and potassium in them may also help reduce your risk of heart disease and stroke. (Most Americans eat 3 a day.)

Tired of red delicious apples? Try Granny Smith, Ida Red, Rome, Stayman, or other varieties. Keep a bag of peeled baby carrots on your desk. Peel yourself a grapefruit, orange, or tangerine. Open and rinse a can of chick peas or pinto beans to munch on. Keep a bowl of fruit salad in the fridge. You get the idea.

**#5- DO** switch to low-fat or fat-free milk, yogurt, ice cream, and cheese. Most Americans, especially females, don't get enough calcium to cut their risk of osteoporosis (brittle bones) later in life. And most dairy foods are loaded with calcium. But if you're not careful, they can also be loaded with artery-clogging saturated fat.

Make your milk skim or 1% fat (so-called "2% lowfat" isn't). Eat ice cream or frozen yogurt only if it's low-fat or fat-free. A daily cup of gourmet, or even regular, ice cream can jeopardize an otherwise-healthy diet.

**#6- DON'T** eat pizza or other cheese-drenched foods more than once or twice a month. When it comes to high-fat dairy foods, cheese is the toughest nut to crack. First, the fat-free versions have a "unique" taste. Second, much of the cheese we eat comes in prepared foods like lasagna, cheeseburgers...and pizza.

According to the manufacturers, two slices of almost any chain's pizza will use up +40 % saturated fat limit for the day! (Just plain cheese pizza.)

Order a Pizza Hut Meat Lover's and you can say "arivaderci" to 60% of a day's sat fat. Make it a Triple Decker with Ham and you'll gobble up +70% Sat Fat!!! (plus 800 calories and 2,000+ mg of sodium). Eat pizza less often.

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## SOFT GOODS FOR 1999

For 1999, Hammer Nutrition and E-CAPS will step up our offering of logo apparel, also known as soft goods. However, rather

than attempt to turn a profit on these items, we will be selling them at or a few pennies over our actual cost. Our thinking is that if you are going to help us advertise our brand, the least we can do is give you a sweet deal on the stuff. But, don't think for a minute that these will be low budget items. On the contrary, these water bottles, t-shirts, socks, baseball caps, singlets and jerseys will be premium quality, top of the line materials. Here's a brief list of what will be available by mid to late May.

**WATER BOTTLES:** Specialized MIG (Molded In Grip) 24 oz bottles. These are the best quality, screw top, wide mouth water bottles with a soft valve cap so it's easy on your teeth. These usually sell in shops for \$5 or more. We'll be offering them for \$1.75.

**SOCKS:** These are genuine DeFeet Air-E-Ator socks in white with red and purple hammer graphics. Very cool and only \$4.50 per pair.

**BASEBALL CAPS:** These are top quality, made in Great Falls, Montana, not Asia. They will be offered in three "distressed" colors; olive green, tan and a third color. These are soft, muted colors that look like the cap has been well worn. The hammer crank logo will be stitched on the front in either a fire engine red or purple. \$8.50 each.

**T-SHIRTS:** Two new Hammer designs and the original E-CAPS "team" edition. \$7.50 each. See the graphics included to get an idea of what the cool new Hammer T's will look like.

**E-CAPS SWEATSHIRTS:** These are Fruit of the Loom, heavy duty gray sweatshirts with the E-CAPS star in purple and black on the chest pocket area and large on the back. 88% cotton, 12% polyester and only \$15.00 each.

**SINGLETS:** We will have two styles of singlets made by RaceReady in California. Both types are 100% Dupont Coolmax. The traditional tank top style singlet is white with a royal blue stripe down the sides with both E-CAPS and Hammer Gel logos in red and black on the chest area. The other style is a sleeveless T-shirt. It's all white with the same red and black graphics and has a neat little pocket in the back that you can put dosages of E-CAPS and maybe even a flask. Either style: \$13.25.

**CYCLING JERSEYS:** These are Voler premium jerseys with a 14 inch hidden zipper featuring the hammer logo on the chest and back and E-CAPS logos on the side panels. Also have several industry logos such as Mavic, Shimano, DeFeet, Smith and others. Jersey colors are orange, purple and red in a very eye-catching graphic scheme. Everyone who has bought one has really liked the look. If you have internet access, you can view a jersey on the [hammernutrition.com](http://hammernutrition.com) web site. Available in S, M, XL, and XXL. ■



## VERSATILE USES OF HAMMER GEL

As many of you know, Hammer Gel can be a very helpful source of energy while exercising. It provides steady energy that doesn't fluctuate like a roller coaster ride and is one of the most economical fuel sources on the market today. And, with 7 flavors to choose from, at least one will appeal to you.

However, there are many different ways that you can put Hammer Gel to good use besides filling your free flask with one flavor. So, here are some ideas for you to think about. Many customers have mentioned using the chocolate flavor as a topping for ice cream or frozen yogurt. Others use the fruit flavors for pancakes, french toast and on peanut butter sandwiches. Let us know if you have found any other creative uses for Hammer Gel.

Why use just one flavor at a time? Mixing

two or more flavors in your free flasks can be fun and exciting. Some of the more popular flavor mixtures are:

- Orange + banana + raspberry = fruit punch.
- Banana + chocolate = banana split
- Raspberry + espresso = raspberry mocha
- Orange + Vanilla = vanilla creamsicle



Use Vanilla or Plain (unflavored)

to reduce the intensity of the other five flavors. (See update on page 3.)

Another issue that has not been sufficiently addressed is whether or not you

can mix Hammer Gel into your water bottle the way you would a powdered energy drink mix. The answer is YES! This works very well and can be useful in situations where logistics and/or exercise conditions make using a flask and water bottle together difficult.

So, depending on how long you will be exercising (how many calories you will need) and how strong you want the flavor to be, you can mix anywhere from 1-10 servings of Hammer Gel right into your water bottle. It works best when the Hammer Gel is at room temperature.

Which brings us to the next point. Unless you plan to store an open jug for several months, the Hammer jug does not need to be refrigerated. Storing it in a cupboard or some other location at room temperature, away from direct sunlight, is sufficient. ■





## MORE FROM MOAB - AMY WINS!

In the last issue of *Endurance News*, I told you about how Rishi Grewal had won the solo pro men's division of the 1998 24 Hours of Moab last October. What I somehow overlooked, and as result did not include in the article, was the fact that another of our sponsored athletes, Amy Axelson-Regan, won the solo pro women's division for the second year in a row and is the Women's record holder for that event. I would like to officially congratulate her on her performance in this extreme event. I would also like to apologize for neglecting to include her results in the last issue along with Rishi's. So, here is a brief report written by Amy after the event.

With clear skies and warm weather, the 4<sup>th</sup> annual 24 Hours of Moab race began. However, extra dry conditions made the course slower than last year, and full of sand pits and loose rock. Amy raced exceptionally well and drew on her ten years of ultra-marathon racing experience to **win the race** with a two hour lead over her nearest competitor!

A young pro woman was ahead of Amy by 90 minutes midway through the race. However, Amy and her crew stuck with their plan, knowing it was only a matter of time. By hour 18, the other racer had to take a long break off the bike, and her subsequent laps were slow. Amy's calculated pace won the race.

"It was almost a good sign when she went out fast, because I knew then that at some point she would hit the wall and I would just keep going," she explained.

The Kona ti Hei-Hei once again proved to be nimble and comfortable for the long haul. Continental Traction Pro tires worked well in all conditions, from slickrock to sand pits. An outstanding vote goes to the Wilderness Trail Bikes saddle, which Amy modified for the ultra race. (They are looking at her design at this time.) "Never in ten years

of racing, have I been so comfortable. I can't believe it," she said after the race, "I feel so good I want to go to WTB and hug everyone."

NightSun provided the light system of dual beams on the bike, a helmet lamp, and two lithium batteries. With this powerful set-up, Amy was able to ride nearly all the course's most technical terrain, while others walked. "I loved the night, I could see all that I needed to and never felt that it slowed me down."

Amy's stomach held out, although it would not accept more than about 200 calories per hour. This kind of adversity forced a game plan that included stopping every lap to eat some solid food. Her incredible mind-over-matter strength was fueled by E-Caps Sustained Energy. This was used as a main source of energy throughout the race. Although she had to be conservative with her speed, the steady flow of this scientific fuel gave her body the endurance she needed to set a winning pace.

So what now?

After 10 accomplished years of racing, Amy might be ready for a new challenge. Her Women's Mountain Biking (WMTB) business is the obvious direction for her pro career. Amy will be working at growing this, which in its first year was a huge success. She will be promoting products that she's had success with by using them in her clinics.

Amy will also still race. But she might be sharing the spotlight, racing as a Duo-Pro (two-person team, either mixed or women's), in the next National 24 Hour event. Amy will also be racing locally in the New England NORBA race series. She will keep you posted on winter training, race schedules, and WMTB clinics.

Thank you Kona, NightSun, E-Caps, Wilderness Trail Bikes, Continental, Speedplay, Litespeed, Cane Creek, Rock Shox, and everyone that has contributed to my successful year. I look forward to a winter of cross-training and planning a new year, full of exciting possibilities! ■

(TRAINING continued from page 1)

utes straight at 75-84%, and build up to 30-40 minutes straight over the weeks. You should notice that your aerobic training also gets faster as this four-week period progresses.

**Training Weeks Get Longer.** Your weekly training should still be steadily increasing, with every fourth week being a recovery week totaling roughly half your usual duration (For example, if the first three weeks in a cycle go up as 8:00 - 9:30 - 11:00, then the recovery week should be around 5:00). Since you are not doing any anaerobic training, your hours should still be on the rise. This second stress on your physiology, the first being the increase in training intensity several times per week, will help to boost your overall fitness. Training duration should reach its peak anywhere from April to July, depending on when your big race of the year is. Allow for 12 weeks of anaerobic intervals and tapering from the date of your longest week to the date of your big race.

**Continue to Lift Weights.** You are lifting weights, aren't you? You should still be lifting regularly, though backing off from 3 days per week to 2 days per week is OK. Intensity and number of exercises should remain the same.

**That about does it.** If you think of your season as a pyramid, with the point of the pyramid being the race for which you want to peak, then you should have just finished creating the foundation of your pyramid and started piling up the first few levels of stones. If you rush your construction, your pyramid will cave in and come toppling down. You'll get sick, injured or burned out (when it really matters) if you set your sights too high too early. Good luck and happy training! ■





chemistry absorbs and assigns it in a capacity to reverse the cause of an inflammatory disorder.

Sulphur is known to be as a mineral of interest that has been shown to enable the body to reconstruct collagen structures in both the vascular system, cellular soft tissue structures throughout the body, and in all of the joints of the body. Race Horses have been supplemented with MSM in order to prevent muscle injury, soreness, and cramping. Why not human racing advocates?

### **TUMERIC SEED or Curcuma Aromatica is new to TR.**

Tumeric or curcumin has been used in Alternative medicine for the treatment of inflammation and has very effective antioxidants as well. Tumeric is also known as: Curcumin, Curcuma longa, Indian saffron, Saffron, and Curcuminoids.

Some Doctors are now using tumeric "curcumin" for inflammatory conditions: arthritis, osteoarthritis, acute infections. Also for health conditions caused by free radical damage: cardiovascular problems, arterial damage, heart disease, and others. Tumeric is also used in the treatment of certain cancers.

Some studies have shown the antioxidant, anti-inflammatory, and anti-cancer powers of curcuminoids in the herb tumeric. Still other medical studies have shown that curcumin with its curcuminoids may block the growth of cancer cells.

#### **USES OF TUMERIC:**

- arthritis, osteoarthritis, rheumatoid arthritis
- high cholesterol
- digestive problems
- liver protection
- heart disease
- obesity

#### **People who should avoid taking tumeric:**

- people with childbearing / fertility problems
- people with blood clotting problems
- people taking anticoagulant medication

Hentschel (1996) said, "The rhizome of Curcuma xanthorrhiza has been used for medical purposes for hundreds of years. A related plant, but which contains other constituents, is C. domestica, which is used in the manufacture of curry powder. Both experimental and clinical studies have revealed, in particular, a choleretic effect. In addition, in part in animal experimental studies, antilipidemic, analgesic-antiphlogistic and antimicrobial effects have also been found."

Deshpande (1998) concluded, "That concurrent treatment of TUMERIC EXTRACT gave significant protection against Carbon Tetrachloride liver-induced damage though the values did not



reach the normal levels. Short pretreatment of TE showed reduction in cholesterol, bilirubin, AST, ALT and alkaline phosphatase activity".

### **QUERCITIN is new to TR.**

Quercitin blocks the release of histamines, which accelerate the inflammatory response. Quercitin is similar to the anti-allergy drug, Cromolyn Sodium, which prevents the release of allergy-induced histamines. Mindell (1998) has suggested that Quercitin is active in blocking leukotrienes which are the potent inflammatory agents involved in asthma, gout, psoriasis, and ulcerative colitis. Supportive of capillary health, promoting good circulation, anti-cancer properties, anti-inflammatory effects, and anti-allergic response, Quercitin is a welcome potent substrate addition, remarkably strengthening the TR formula.

Quercitin may not only raise blood levels of HDL ("good" cholesterol) but also act as a blood thinner. Current interest in the benefits of wine in protecting against coronary heart disease prompted Fitzpatrick et al., (1994), "to investigate possible effects of various grape products on vascular function in vitro. Certain wines, grape juices, and grape skin extracts relaxed pre-contracted smooth muscle of intact rat aortic rings but had no effect on aortas in which the endothelium had been removed. The vasorelaxation induced by grape products therefore appears to be mediated by the NO-cGMP pathway. If such responses occur in vivo, they could conceivably help to maintain a patent coronary artery and thereby possibly contribute to a reduced incidence of coronary heart disease."

Quercitin may have remarkable anti-toxin effects. Humiczewska (1994) administered Quercitin and Cernitin at the time of intoxication of rats with ammonium fluoride, they reduced the noxious effects of the toxic agent in the liver and lungs. It is suggested that Quercitin and Cernitin might play a protective role during prolonged exposure to ammonium fluoride.

### **MUCOPOLYSACCHARIDES COMPOUND FORMULA**

The glycosaminoglycan mucopolysaccharides from glucosamine sulfate, chondroitin sulfate, and green lip mussel have been shown to promote unrestricted movement, and reduced joint tenderness from both overuse and incidental injuries.

### **GLUCOSAMINE SULFATE**

This is actually found in high concentrations in all joint structures of the body, and is found to be an important building block of cartilage, ligaments, and joint fluids. Supplementation of glucosamine sulphate promotes elasticity of joint movement. The tiny glucosamine molecule is 250 times smaller than its chondroitin sulphate cousin, making it highly absorbable through the digestive membranes and therefore available to structures where it is needed for repair.

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**CHONDROITIN SULPHATE (CS)**, a larger component of tissues in repair, but functionally similar to glucosamine sulphate, stimulates fluids for cartilage lubrication and cushioning against harmful impact. CS is a constituent of acidic glycosaminoglycans found in arterial walls. Kostner found that these substances performed anticoagulant, antilipemic, and anti-thrombic functions within the arterial system by binding "bad" cholesterol (LDL), achieving a cholesterol lowering effect.

In the extensive Nakazama study, mean blood-clotting times were prolonged 50%, decreasing serum cholesterol and triglycerides in elderly patients. A better cardiovascular supply always translates into injury prevention and better performance. Improved immune response has been shown to occur when subjects supplemented with chondroitin sulphate. The Rosen study indicates that CS intake has a direct effect on B-cell activity and an indirect effect on macrophage immune response to infection, injury, and inflammation. The Volkova study has shown that this mucopolysaccharide concentration reduces the symptoms of rheumatoid arthritis. Sabo also demonstrated that topical applications of CS to external wounds accelerated healing time significantly.

**GREENLIP MUSSEL** is a rich source of naturally occurring chondroitin sulphate, hyaluronic acid, and a free-radical scavenger, super oxide dismutase. Research shows specifically that these mucopolysaccharides, in combination, offer a rich assortment of beneficial relief to performance-inhibiting injuries as a result of overuse activities.

The mucopolysaccharides which make up "Tissue Rejuvenator" are proven sources of:

- (1) free-radical scavengers,
- (2) inhibitors of cholesterol buildup,
- (3) multiple tissue building-block materials, and
- (4) expeditors of both internal and external wound healing.

#### **DL-PHENYLALANINE (DLPA)**

Dr. Balch, M.D. best summarized the benefits of DL-PA, an amino acid building block, when he stated, "DLPA is very effective in the control of pain,

especially for those with arthritis. It functions as the building block of all amino acids..." Millinger showed that relief is possible to those stricken with chronic painful inflammatory symptoms. This study shows two separate actions occur when supplementing with this amino acid: increased synovial fluid, and endorphins for counteracting the



pain due to joint space inflammation. Balagot observed patients who supplemented with DLPA reported significant relief within 2 weeks from the pain-induced osteoarthritis. Many studies have confirmed using DLPA (Phenylalanine) supplements decreases chronic pain, even when standard medications provided little to no relief of symptoms. Endorphins and enkephalins are natural morphines the body produces when DLPA is supplemented. Helping the body during injury by stimulating natural responses for which it is equipped, will hasten recovery, promoting healing for normal pain-free activity.

#### **PROTEOLYTIC ENZYMES**

Two naturally occurring proteolytic enzymes are well known for their anti-inflammatory control within the human body. BROMELAIN, an enzyme from freshly grown pineapples, increases the breakdown of fibrin, which encloses inflamed tissue sites, blocking blood and lymph flow and causing an increase in local swelling. PAPAINE, an extract from the Papaya plant, is synergistic with the anti-inflammatory effect of bromelain, helping to inhibit overuse joint pain.

#### **SYNERGISTIC HERBAL COMPLEX, POSITIVE NATURAL RELIEF WITHOUT NEGATIVE SIDE EFFECTS**

Ulcers, renal failure, liver disorders,

and increased (anti-immune) sed-rates may result from extended use of prescription anti-inflammatory medications or over-the-counter medications (NSAIDS) for pain or inflammation from overuse activity. Organically grown herbs may offer relief when taken orally or topically, but do not produce severe side effects, even when used for prolonged periods of time.

**BOSWELIA SERRATA** is a plant which produces triterpene acids, which will sedate inflammation and selectively stimulate less pain from injured tissues as in sports injuries or arthritis.

**HORSETAIL HERB** strengthens hair, nails, bones, and teeth, while also increasing calcium absorption. Horsetail contains organic silica, calcium, copper, zinc, and vitamin B-5 for healing of connective tissues, broken bones, and exterior skin wounds.

**LICORICE ROOT** is beneficial in reducing the symptoms of hypoglycemia, muscle spasms, bronchitis, stress, colds, and inflammation. Its widespread range of symptom relief may be due to a unique hormonal effect it has on the adrenal glands, contributing to regulation of muscle tone, fluid flow in lungs, and immune response. Studies show that after licorice root is supplemented, interferon is produced, which directly affects antibody production and cell-mediated immune functions.

**YUCCA ROOT** provides saponins which purify blood in a unique manner. Some clinics routinely prescribe yucca root for osteoarthritis and rheumatoid arthritis.

**DEVILS CLAW** has been used in extensive European clinical research comparing it to Phenylbutazone, the standard of potent antiarthritic drugs. Devils claw was found to be more effective in reducing pain and inflammation, yet no problematic side effects were observed.

The herbs, the proteolytic enzymes, the amino acid-DLPA, and the aforementioned mucopolysaccharides have all been proven effective as single supple-

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**#7-** DO go for whole grains. Whole grains are more nutritious than refined grains, and they're more closely linked to a lower risk of colon cancer.

First, buy whole wheat breads and crackers. (Rye, pumpernickel, and oatmeal breads are mostly white.) Second, switch to whole grain breakfast cereals. The choices are almost endless: Wheaties, shredded wheat, Cheerios, raisin bran, oatmeal, and Wheatena, to name a few. Try whole wheat pastas and tortillas, brown rice, bulgur, buckwheat (kasha), and millet.

**#8-** If you eat butter or margarine, DO buy only light tubs or sprays. BUTTER is the worst. It's loaded with saturated fat. MARGARINE, especially in sticks, is nearly as bad. It has saturated plus trans fat.

SOLUTION: A spray "butter" like I Can't Believe It's Not Butter! Or a tub of "light" margarine or whipped "light" butter. The butter may be harder to find—Land O' Lakes is the only national brand we know of. Fleischmann's, Mazola, Parkay, and Promise make light tub margarines. None has more than 6 grams of fat or 3 grams of saturated and/or trans fat per tablespoon. They're not so good for sautéing or baked goods (because some of them splatter, and you end up using too much). When it comes to cooking, you're better off with a spray like PAM, or olive or canola oil.

**#9- Cut down on SODIUM. DON'T lean so heavily on PROCESSED-PACKAGED-PREPARED foods. It's the food industry—not the salt shaker—that causes our salt problem. More than 75 percent of the sodium we eat comes from processed foods.**

Instead of a frozen dinner, try steaming some broccoli and smother your broiled fresh flounder in low-fat mayo, lemon juice, and dill. Skip the commercial salad dressing and mix your own vinegar, fresh garlic, mustard, and a little olive oil.

Roast your chicken in orange juice after sprinkling with garlic powder and paprika. Sauté fresh ripe tomatoes and mushrooms with garlic and olive oil for a better-than-bottled spaghetti sauce.

Your blood pressure, bones, and taste buds will appreciate the extra effort.

**#10-** DON'T overload on sweets. SUGAR doesn't just cause tooth decay. With a few exceptions, it also comes in foods that drag down a good diet.

**By far, Americans get more sugar from SOFT DRINKS than from any other food. They account for a quarter of all the refined sweeteners we consume.**

And every 12 oz Coke, Pepsi, or whatever is 160 calories of nothing. No vitamins, minerals, fiber, or phytochemicals. You just squandered an opportunity to chalk up one terrific serving of fruit with a glass of orange juice, or to boost your calcium with a glass of skim or 1% milk.

Other sweets—brownies, cookies, cheesecake, scones, sweet rolls—can saddle you with an entire meal's worth of calories and fat, much of it artery-clogging. Fat-free or low-fat versions are healthier, but even they take the place of fruit, whole grain crackers, or other nutrient-packed foods.

**#11-** If you drink ALCOHOL, DON'T overdo it. If you drink, keep it to no more than one a day (for women) or two a day (for men). Women who drink have to balance an increased risk of breast CANCER against a decreased risk of HEART DISEASE. In one study, women who drank one to three times a week had the lowest overall DEATH RATE. But how much, or whether, you drink should also depend on your other risk factors for heart disease, breast cancer, and alcohol abuse.

**#12-** DO take a MULTI-VITAMIN/MINERAL SUPPLEMENT, and more. Vitamins can't fix a broken diet, but they may make a good diet better, especially if, like most women and older people, you simply don't eat much food. Go for an ordinary multi with 100 percent of the USRDA (or daily value) for most vitamins and minerals, especially folic acid and vitamin D.

Menopausal Women: Consider also taking a calcium supplement (500 to 1,000 mg) unless you consume three or four dairy foods a day. Men & Post-

menopausal Women: Consider a low-iron or iron-free multi to reduce your risk of iron overload. Seniors: Follow the advice on calcium for premenopausal women and take an extra 15 to 25 mcg of vitamin B-12." ■

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#### (TISSUE continued from page 8)

ments, for successful relief of pain and inflammation. We offer all of these potent tissue rejuvenating nutrients in a safe, natural supplement to help you prevent aggravating overuse injury, deal with the pain, and return to the joy of endurance activities. ■

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