Think Muscle Newsletter

http://www.thinkmuscle.com

Think Muscle Newsletter #6

September 11, 2000 - Number 6

Think Muscle **http://www.thinkmuscle.com/**

ISSN: Pending 5,609 opt-in subscribers

The Think Muscle Newsletter publishes the latest news and research on exercise physiology, dietary supplements, performance enhancement, lifestyle management, health & nutrition, and bodybuilding & fitness. The newsletter is dedicated to providing accurate and unbiased scientifically based information.

Editor-In-Chief: Bryan Haycock, MS, CSCS
Email: info@thinkmuscle.com

PDF Version: http://www.thinkmuscle.com/newsletter/006.pdf
HTML Version: http://www.thinkmuscle.com/newsletter/006.htm

Interested in Writing for Think Muscle?

Are you recognized as an expert in your field? Want to be? Then write excellent articles for the Think Muscle Newsletter! Think Muscle is accepting 500-1000 word scientifically-referenced articles with a 30 word author's credit and link. All submitted material becomes property of Think Muscle. Acceptance of material does not guarantee publication.

Please email your submission to info@thinkmuscle.com

Help us Serve You Better!

Think Muscle has rapidly become a world-renowned source for scientific information about diet, training, performance, and health. We would now like to try to expand our ability to provide you, the readers, with even more sources of trusted, in depth information. There are a number of excellent books covering everything from low carb diets to sport psychology that we were thinking of making available to our readers. Before we invest any laces from our shoestring budget, we wanted to get your feedback to see if this is something you would like to see Think Muscle do. We will be sure to include unbiased reviews of each title.

Think Muscle Newsletter

http://www.thinkmuscle.com

1. Would you like Think Muscle to offer a few "select" books on diet, nutrition, health, etc. to our readers?
[ ] Yes!
[ ] I don't know yet.
[ ] I'm not interested.

Contents

Message from Our Sponsor

Too Old to Train Heavy? Think Again…

By Bryan Haycock, MS, CSCS
Email: bryan@thinkmuscle.com

Many of you have voiced you desire to learn more about the effects of exercise in the "older" population. I will leave it up to you to decide exactly when a person becomes "older", however, one recent study clearly demonstrated the effects of high-intensity exercise on individuals ranging in age from 60 to 75.

Think Muscle Newsletter

http://www.thinkmuscle.com

In a recent study performed at Ohio University, 18 untrained men ages 60-75 years volunteered for the study. Nine were randomly placed in the resistance-training group (RT), and the other half served as untrained (UT) or control subjects. RT subjects performed a 16-week high-intensity (85-90% 1RM) resistance training program performed 2 times per week. Each workout consisted of 3 sets to failure (6-8 repetitions based on 1 RM of 3 exercises) using leg press (LP), half squat (HS), and leg extension (LE) with 1-2 minutes rest between sets.

Pre- and post- training strength was measured for the 3 training exercises using a 1 RM protocol. Body fat was calculated using a 3-site skinfold method. Biopsies from the vastus lateralis m. were obtained for fiber type composition, cross-sectional area, and capillarization measurements. Exercise metabolism, electrocardiography, and arterial blood pressure were observed continuously during a progressive treadmill test, and resting echocardiographic data were recorded for all subjects. Pre- and post-training venous blood samples were analyzed for serum lipids.

Resistance training caused significant changes in body fat levels, strength, fiber type, and fiber size. Percent fat decreased in the RT group by almost 3%, strength improved for all exercises: leg extension increased by 50.4%, leg press increased by 72.3%, and half squat by 83.5%. There was a fiber-type shift from IIB to IIA. You may recall reading about this shift in muscle fiber type after resistance training in a previous issue of the Think Muscle newsletter (http://www.thinkmuscle.com/newsletter/002.htm). Cross-sectional areas of all fiber types (I, IIA, IIB) increased significantly. Capillary to fiber ratio also increased but not significantly. No differences were observed for ECG and echocardiographic data. Interestingly, the RT group significantly improved treadmill performance and VO2max even though no aerobic training was performed. Pre- and post-training serum lipids improved but not significantly. No significant changes occurred in any pre- to post-tests for the control group.

This study clearly demonstrates what I have always told my clients, and that is that training programs for older individuals should not differ considerably from those prescribed for young people. The same *relative* resistance needed to make a young person's muscle respond is the same needed for person decades older. To understand this, remember that the tissues of your musculoskeletal system are regenerating tissues. This means that the cells that make up those tissues constantly turnover, or regenerate themselves. As you get older, these tissues have been observed to atrophy or shrink, but this is due largely to inactivity and poor nutrition. When proper exercise and dietary practices are followed, people's body composition (ratio of fat to muscle) remains relatively unchanged until very late in life. This study goes further to show that it is never to late to begin a weight-training program even if you haven't kept up over the years. Any person, young or old, looking to lose some fat and build some muscle should not procrastinate another day.

References

Think Muscle Newsletter
http://www.thinkmuscle.com

Hagerman FC, Walsh SJ, Staron RS, Hikida RS, Gilders RM, Murray TF, Toma K, Ragg KE. Effects of high-intensity resistance training on untrained older men. I. Strength, cardiovascular, and metabolic responses. J Gerontol A Biol Sci Med Sci 2000 Jul;55(7):B336-46

The Creatine Factor

By Rehan Jalali
Email: rehan@thinkmuscle.com

Creatine is one of the most widely used and effective supplements on the market today. It has been shown in many clinical studies to enhance lean body mass, increase strength, enhance energy levels, and increase muscle size. Some newer research on creatine indicates that combining creatine with protein and carbohydrates is as effective for stimulating creatine uptake and retention in the muscle tissue as taking creatine with carbohydrates alone. Stimulating insulin release has been shown to enhance the transport and uptake of creatine into the muscle tissue where it is used to support the reproduction of ATP (energy) and enhance cell volume as well as possibly buffer lactic acid. The study entitled "Protein and carbohydrate-induced augmentation of whole body creatine retention in humans" was published in the September 2000 issue of the Journal of Applied Physiology (1) and showed that consuming 50 grams of protein and 47 grams of carbohydrates with creatine was equally as effective in terms of creatine absorption and retention as consuming 96 grams of carbohydrates alone with creatine. So the creatine, protein, and carbohydrate combination actually makes for a great post workout drink mix to enhance recovery and help prevent muscle breakdown secondary to weight training.

Some other less recent studies on creatine have shown that it can enhance aerobic endurance (2) as well as anaerobic endurance. Up until this point, it was concluded that creatine only enhanced short-term explosive anaerobic activity but now this study should prompt future research on the effects of creatine on aerobic performance. Another study showed that creatine might directly enhance the size of the muscle fibers themselves by causing direct hypertrophy (3). Although this was an animal study, it does bring about some interesting findings that will hopefully lead to future human research in this area.

Creatine Magnesium Chelate

This is a new form of creatine on the market and can be considered an advanced version. Magnesium is a macromineral that has many synergistic effects with creatine. In fact, ATP is actually found in the muscle cells bound to magnesium for stability. Magnesium has been shown to enhance strength and energy levels taken on it's own. It is intimately involved in the energy cycle and has cardio-protective effects as well. Creatine monohydrate has been shown to be very effective in many studies, however some users experience stomach discomfort due to lower absorption rate and breakdown into it's by-product creatinine in the stomach. By creating a creatine-magnesium chelate, creatine can be protected from the harsh environment of the stomach acid and this chelate can help prevent breakdown. It can also help enhance absorption of creatine and decrease stomach discomfort that many creatine users (and their friends) can appreciate. This chelation

provides a highly bioavailable form of creatine and magnesium. Some initial research shows it is better absorbed and tolerated than traditional creatine monohydrate. It also mixes well in water. There have been no side effects shown with this compound at the recommended doses and it shows excellent promise for the future of creatine.

The science of sports supplementation has come a long way. There are a lot of new compounds and current compounds being reviewed evaluated by researchers and there's a lot of new information on this subject to come. Stay tuned!

References

1. Steenge GR, et al., "Protein and carbohydrate-induced augmentation of whole body creatine retention in humans," *J Appl Physiol* 2000 Sept., 89 (3): 1165-1171.
2. Rico-Sanz J, et al., "Creatine enhances oxygen uptake and performance during alternating intensity exercise," *Med Sci Sports Exerc* 2000 Feb., 32 (2): 379-385.
3. Dangott B., et al., "Dietary creatine monohydrate supplementation increases satellite mitotic activity during compensatory hypertrophy," *Int J Sports Med* 2000 Jan., 21 (1): 13-16.

Get Sloppy With RoundUp and Your Weeds Won't Be the Only Thing Wilting!

By Bryan Haycock, MS, CSCS
Email: bryan@thinkmuscle.com

Environmental chemicals have now permeated every inch of our planet. Whether you live in the rainforest or in downtown Los Angeles, your body is affected by chemical pollutants in the air, land and sea. Many of you may be surprised to learn that it isn't just the big corporations of the world that are to blame for global pollution. We use in and around our homes that can have a significant effect on our health. One such chemical is weed killer.

In a recent study performed at Department of Cell Biology and Biochemistry, Texas Tech University Health Sciences Center, the explored the effect of a popular consumer weed killer called RoundUp. I personally have used this many times to get rid of dandelions and the like. Anyway, they found that RoundUp significantly blocked testosterone production in testicular cells. They were able to show that Roundup inhibited steroidogenesis by disrupting StAR protein expression. "StAR" stands for, steroidogenic acute regulatory protein. StAR protein mediates the rate-limiting and acutely regulated step in steroidogenesis. This step is the transfer of cholesterol from the outer to the inner mitochondrial membrane where the cytochrome P450 side chain cleavage (P450scc) enzyme initiates the synthesis of all steroid hormones. StAR is a very important regulatory hormone for anyone interested in optimal testosterone levels.

This study simply demonstrates the risks involved with introducing foreign chemicals into our environment. Keep in mind that RoundUp is only one of many different chemicals that effect testosterone production.

Next time your out killing weeds, take the time to read the label and take the warnings seriously. If it says where gloves and other protecting clothing, do it or your weeds won't be the only thing wilting.

Reference

Walsh LP, McCormick C, Martin C, Stocco DM. Roundup Inhibits Steroidogenesis by Disrupting Steroidogenic Acute Regulatory (StAR) Protein Expression. Environ Health Perspect 2000 Aug;108(8):769-776

Team Think Muscle
Be on the Cutting Edge!

Spread the word about the Think Muscle Newsletter and send the latest information on health, fitness, nutrition, training, and supplementation to all your colleagues, friends, and family. Give all these people THE BEST and latest information to allow them to increase their knowledge base and develop their best body ever! By sharing this incredible information, you are giving the gift of health. ACT NOW! Anyone can subscribe to the FREE weekly newsletter by sending an email to thinkmuscle-subscribe@listbot.com or subscribe online at http://www.thinkmuscle.com/newsletter.htm. You can also send us the name and email addresses of five of your friends and we will automatically send them an invitation to join and a copy of our most recent newsletter. Imagine people you refer getting this amazing and detailed information for FREE. They will definitely be indebted to you! If you refer five people to us, we will also enroll you for FREE into Team Think Muscle which will give you some great benefits in the future -- more details to come!

Reader Survey
Tell Us What You Think?

1. Would you like Think Muscle to offer a few "select" books on diet, nutrition, health, etc. to our readers?
[ ] Yes!
[ ] I don't know yet.
[ ] I'm not interested.

2. Too Old to Train Heavy? Think Again… by Bryan Haycock
[ ] It was good.
[ ] It was okay.
[ ] I didn't like it.
[ ] I'm not interested.

3. The Creatine Factor by Rehan Jalali

[ ] It was good.
[ ] It was okay.
[ ] I didn't like it.
[ ] I'm not interested.

4. Get sloppy with RoundUp and your weeds won't be the only thing wilting! by Bryan Haycock MS
[ ] It was good.
[ ] It was okay.
[ ] I didn't like it.
[ ] I'm not interested.

5. *What type of articles would you like to see in the future? (Check all that apply.)*
[ ] Anabolic Steroids and Pharmaceuticals
[ ] Anti-aging medicine
[ ] Body Transformation
[ ] Children's Health and Nutrition
[ ] Competitive Bodybuilding
[ ] Diet and Nutrition Reviews
[ ] Dietary Supplements
[ ] Exercise Physiology
[ ] Fitness Competitions
[ ] Fitness Psychology
[ ] General Health Topics
[ ] Lifestyle Management
[ ] Men's Health
[ ] Powerlifting
[ ] Seniors Health Topics
[ ] Sports Specific Training
[ ] Women's Health and Nutrition

We hope you have enjoyed the latest issue of the Think Muscle Newsletter. Suggestions? Comments? Questions? We'd love to hear them!

Best regards,

The Think Muscle Editorial Staff
URL: http://www.thinkmuscle.com/
Newsletter: http://thinkmuscle.listbot.com/

Think Muscle Newsletter

http://www.thinkmuscle.com

HOW TO UNSUBSCRIBE

We hope you've enjoyed this message. However, if you do not wish to receive it in the future, please write to this e-mail at thinkmuscle-unsubscribe@listbot.com with the word unsubscribe in the subject line.

DISCLAIMER

The information contained in this newsletter is for educational and entertainment purposes only and should not be interpreted as a recommendation for a specific treatment plan, product, or course of action. This information is not intended to be a substitute for professional medical advice. You should not use this information to diagnose or treat a health problem or disease without consulting with a qualified healthcare provider. Please consult your healthcare provider with any questions or concerns you may have regarding your condition.