Think Muscle Newsletter

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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.

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Hypertrophy-Specific Training

Designed by Bryan Haycock MS
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This is a workout that I designed after years of studying hypertrophy-specific research. I now use myself (added additional 10-20 pounds), and have used successfully to train competitive bodybuilders for some time. It is NOT designed for competitive track athletes, Powerlifters or Olympic lifters. It is designed according to research looking specifically at muscle hypertrophy, not muscle performance. This kind of training is fine to put on size during the off-season, but do not use this routine if you are a performance athlete during the competitive season.

This subject deserves a lot more attention than I am able to give it here. I will cover the

topic more thoroughly in the future, including references. In the meantime, if you want to grow as fast as possible, this type of high-frequency, high-intensity, low-volume training is most effective. If you are interested in this topic you may find a previous 3 part article on Mesomorphosis interesting as well. You can read it here:
http://www.mesomorphosis.com/exclusive/haycock/training01.htm

Sample Workout.
Each body part should be trained using the following exercises:

Body Part	**Exercise(s)**
Legs	Squat or Leg Press & Leg Curls (Leg Ext. optional)
Chest	Bench (slight incline) & Dip (use dumbbells if shoulders bother you)
Back	Chins (W&N grip) & Seated or Bent Over Row (W&N grip)
Shoulders	Lateral Raise (Rear) and shoulder press
Biceps	Any Aone≅ curling movement per session (switch it frequently)
Triceps	Triceps Push-down or Lying Tri Ext.
Torso	Crunch (w/weight) or machine

NOTES:

< Workout should be performed **3 times per week**.

< **Sunday, Tuesday, Thursday & Saturday are rest days.** Light cardio (20-40 min.) *may* be performed on rest days. Incline treadmill (brisk walk) should be first choice.

< There is an **obligatory increase in weight** (from 5-20 lbs.) each workout. This means that *at times you may be working with less than your maximum weight* for any given rep scheme. This is by design. You will reach max poundages for a given rep range on the last workout of each two week block.

< **Repetitions will decrease every 2 weeks** in the following order: 15 for 2 weeks ⇒ 10 for 2 weeks ⇒ 5 for 2 weeks ⇒ 5s/negatives for two weeks. 15's can be skipped when you are about to start over after the first 8 week cycle. If you are feeling strain-type injuries coming on don't skip the 15s.

< **Sets will be limited** to 1-2 per exercise. There is no problem with a single set per body part as long as it is a maximum effort and/or the rep tempo and form is strictly controlled or the weight is extremely heavy preventing further sets.

< **Complete each workout using designated poundages even if muscles are sore from previous workout.** It is important to know the difference between an injury and ordinary muscle soreness.

< Following each 6-8 week cycle, **a one-week break** should be taken during which

no, or very little, training should be performed. This time is used to recuperate and allow any *minor* over-use injuries to heal. Try to get plenty of sleep as well as participate in leisure activities outside of the gym.

< The whole workout can be split into a morning and afternoon session. It can likewise be doubled, performing the same workout morning and evening. Keeping volume (number of sets and exercises) low is critical if doubling the workout.

Sample Two-Week Block using 10 reps.

10 Rep Maxs' for all exercises were established previously and are as follows:

Squat = 10x235 lbs
Leg Curl = 10x70 lbs
Bench = 10x185 lbs
Chins = 10xBW+10 lbs
Dips = 10xBW+20 lbs
Rows = 10x150 lbs
Delts (Rear) = 10x30 lbs
Shrugs = 10x185 lbs
Bis = 10x45 lbs
Tris = 10x50 lbs

Mon	**Tue**	**Wed**	**Thur**	**Fri**
Squat = 2x10x135lbs Leg Curl = 2x10x45 lbs Bench = 2x10x165 lbs Chins = 2x10xBW Delts (Rear)=2x10x5 lbs Shrugs = 2x10x135 lbs Bis = 2x10x20 lbs Tris = 2x10x25 lbs	Rest	Squat = 2x10x155 lbs Leg Curl = 2x10x50 lbs Dips = 2x10xBW Rows = 2x10x130 lbs Delts (Rear)2x10x10 lbs Shrugs = 2x10x145 lbs Bis = 2x10x25 lbs Tris = 2x10x30 lbs	Rest	Squat = 2x10x175 lbs Leg Curl = 2x10x55 lbs Bench = 2x10x175 lbs Chins = 2x10xBW+5 lbs Delts (Rear)2x10x15 lbs Shrugs = 2x10x155 lbs Bis = 2x10x30 lbs Tris = 2x10x35 lbs
Squat = 2x10x195 lbs Leg Curl = 2x10x60 lbs Dips =2x10xBW+10 lbs Rows = 2x10x140 lbs Delts (Rear)2x10x20 lbs Shrugs = 2x10x165 lbs Bis = 2x10x35 lbs Tris = 2x10x40 lbs	Rest	Squat = 2x10x215 lbs Leg Curl = 2x10x65 lbs Bench = 2x10x185 lbs Chins 2x10xBW+10 lbs Delts (Rear)2x10x25 lbs Shrugs = 2x10x175 lbs Bis = 2x10x40 lbs Tris = 2x10x 45 lbs	Rest	Squat = 2x10x235 lbs Leg Curl = 2x10x70 lbs Dips =2x10xBW+20 lbs Rows = 2x10x150 lbs Delts (Rear)2x10x30 lbs Shrugs = 2x10x185 lbs Bis = 2x10x45 lbs Tris = 2x10x50 lbs

Workouts should be done in similar fashion for each rep scheme using the appropriate poundages determined by your *RM.

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Use the training log form included to keep track of your performance. Make multiple copies for future cycles.

Date

Muscle Groups:

Exercise	**Set#/Weight**	**Set#/Reps**

Notes

Adjustments: 10RM routine		*Adjustments: 6RM routine*		*Adjustments: 3RM routine*	
Reps	**Sets 3&4**	**Reps**	**Set 3&4**	**Reps**	**Set 3&4**
4-6	decr 5-10lb.	0-2	decr 5-10lb.	1-2	decr 5-10lb.
7-8	decr 0-5lb.	3-4	decr 0-5lb.	3-4	leave same
9-11	leave same	5-7	leave same	5-6	incr 5-10lb.
12-16	incr 5-10lb.	8-12	incr 5-10lb.	>7	incr 10-20lb.
>17	incr 10-15lb.	>13	incr 10-15lb.		

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Synthesized Fragments of Hormones Make their Debut

By Elzi Volk
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Our body is an enigmatic soup of many hormones and growth factors that determine how we develop, grow and age. One of the hormones primarily responsible for much of our early growth is aptly named 'growth hormone.' Like most growth factors in the body, growth hormone is a secreted protein that exerts multiple effects on gene regulation, cell growth, metabolism, differentiation, and growth and development of several organs and tissues. To accomplish these biological actions, these molecules activate specific cellular receptors that initiate one or several signal cascades within the cell. As with many other hormones, growth hormone is secreted in a pulsatile manner, which is regulated by negative and positive controls and is called a feedback system.

Growth hormone (GH) acts directly by stimulation of its own receptor on cell membranes. It also acts indirectly on peripheral target cells by stimulating synthesis and secretion of insulin-like growth factor-1 (IGF-1). The dichotomous roles of GH are an example of the complexity of hormone action. In addition to the insulin-mimicking effect, GH also antagonizes insulin's metabolic effects. Chronic levels of elevated GH result in glucose intolerance. GH induces lipid (fats) synthesis in fat cells due to the insulin-like effects and inhibition of lipolysis (fat breakdown). However, GH also stimulates lipolysis in fat cells. When GH is administered to GH-deficient adults, their muscle volume and lean body mass increases and their body fat significantly decreases.

How do proteins such as GH elicit a specific response resulting in such a variety of effects in the body? Hormones and other growth factors deliver their 'message' to a target cell by interacting with their specific receptor. Each protein or peptide is synthesized within a cell according to a genetic code called DNA. Through a series of processes, the resulting protein is synthesized within a cell according to a genetic code called DNA. Through a series processes, the resulting assembled protein is comprised of lengths of amino acids that are strung together and attached by various types of chemical bonds to render a 3-dimentional shape, which is referred to as its 'conformation.' This physical

structure and the chemical attributes of the sequences determine how the molecule binds and stimulates its receptor. The recognition of the receptor and the binding areas of the hormone result in a conformational change which then elicits a signal that is transmitted within the cell, ultimately inducing a biological response.

Through advancements in biotechnology, scientists have discovered that various fragments of many proteins involved in cell signaling elicit specific physiological responses. Scientists are now able to identify the specific domains of the intact hormones that are functional and determine what their functions are. Research labs can sequence, synthesize and amplify these fragments and discover how they elicit their effects by adding them to cell cultures (*in vitro*) grown in the laboratory.

Researchers have identified the fragment of human GH (hGH) that is responsible for the insulin-like response in humans and another fragment that induces lipid metabolism. They have synthesized this latter fragment and shown that chronic oral and injected (acute) administration of these fragments reduces fat mass in rats.(1) They have also shown that it mobilizes lipids in human fat cells *in vitro*. The fragment peptides were able to withstand degradation by gastrointestinal enzymes, and were absorbed and appeared in the plasma of the rats. However, whether the peptide fragments can withstand digestion and be absorbed in the human gastrointestinal environment remains to be determined.

Synthesis of fragmented hGH and other growth factors may hold substantial promise for future medical administration of hormones without the adverse effects that are often experienced from using the intact molecules. Physicians may soon be able to prescribe an analog of hGH that alters body composition without inducing glucose intolerance. Oral administration also offers an easy and non-invasive route of administration for effective pharmacotherapy to treat obesity and diabetes. I foresee the application of this technology to other synthesized hormone and growth factor fragments as successful adjunct therapy for other diseases such as cancer. The future looks bright for new disease treatments.

References

1. Heffernan MA, Jiang WJ, Thorburn AW, Ng FM. Effects of oral administration of a synthetic fragment of human growth hormone on lipid metabolism. *Am J Physiol Endocrinol Metab* 279:E501-E507, 2000.

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About Women and “Banned substances”…

By Bryan Haycock MS
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As many of you have heard, a female American Olympic lifter recently was awarded a gold medal in place of her silver, after the Bulgarian competitor who beat her tested positive for a “band substance”. At the time of writing this I have yet to find out what exactly she tested positive for, so I will assume it was an androgen, or steroid, as most

people know them by. Besides that, several of her male Olympic lifting counterparts were also disqualified for testing positive for banned substances so chances are pretty good she was "well oiled" too.

I thought I would share a recent study published in *Psychotherapy and Psychosomatics*. In this study they profiled two groups of women, those who were steroid users and those who professed not to use steroids.

The study revealed some interesting things. First of all, their urine tests rarely matched what the girls had reported using. Someone not familiar with steroids and how most people get them might think that the girls were simply lying. Although they didn't give anybody lie detector tests, I would highly doubt that any of the girls knowingly lied about the drugs they were using.

What they thought they were taking…	**What they were actually taking…**
Sub #2: Methenonlone	Nandrolone & Methenolone
Sub #3: Testosterone	Nandrolone
Sub #5: Methenolone	Boldenone
Sub #8: Nandrolone & Boldenone	Boldenone
Sub #9: Stenazolol, Methenolone, Nandrolone	Nandrolone
Sub #10: Nandrolone, Methenolone, Nandrolone	Boldenone
Sub #11: Oxandrolone, Nandrolone	Nandrolone

Truth of the matter is, because testosterone has been criminalized here in the United States, the most common way of getting it is to buy it on the black market. The term "black market" is simply a way of saying you get it from people who can't sell it legally. The black market is not regulated so you often find counterfeit products as well as fakes. Counterfeits are simply inactive ingredients sold as something else. Fakes are often the real thing, but they are put in a container with a counterfeit label. They are kind of like buying a really high quality watch that said it was a Rolex but in fact was not. You still get a great watch; it's just not a real Rolex. Then again, often times the person selling the steroid will "water it down" with a less expensive androgen, or simply lie about what is really in the container and deceptively sell you a cheaper and often less effective hormone. With all this in mind it is easy to see how their urine tests didn't match their self-reports. If you think about it, buying testosterone or other hormones on the black market is a risky proposition. You really don't have any idea what is really in the bottle unless you have it tested yourself (not likely). At least with the state run programs of Eastern Europe, the hormones were/are supplied buy reputable drug manufacturers through government channels and there was no question about the safety or potency of what was being administered to the athletes. That isn't to say that the athletes themselves had any idea what they were being given. More on that in a future issue…

One other interesting thing they observed was that the girls weren't always aware of some of the side effects they were experiencing. Or, they were in denial about some of the side effects. For example, several of the girls that denied any effects their hormone use had on their voices, had in fact very deep voices. The changes in a woman's voice doesn't happen over night, nevertheless, I think many women simply refuse to acknowledge that they now talk like teenage boys, especially when they consider themselves "light users".

Back to the Olympics, I kind of feel sorry for those athletes in state run programs who get disqualified for using hormones. Most of these athletes really don't have any choice in the matter as they simply do what they are told, "or else". They are then reassured that they will pass the tests and everything will be all right. Then, when they fail the tests, they are disgraced in front of the entire world and labeled "cheater". I'm sure the whole issue of drugs in sports opens up a panacea of different legitimate perspectives and opinions, certainly too many to cover fairly in the newsletter. If the issues of drug and sport interest you, let us know and we will feed your yearnings for knowledge in traditional Think Muscle fashion.

Reference

Gruber AJ, Pope HG Jr. Psychiatric and medical effects of anabolic-androgenic steroid use in women. *Psychother Psychosom* 2000;69(1):19-26

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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!

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Reader Survey

Tell Us What You Think?

1. Hypertrophy-Specific Training by Bryan Haycock MS

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

2. Synthesized Fragments of Hormones Make Their Debut by Elzi Volk
[ ] It was good.
[ ] It was okay.
[ ] I didn't like it.
[ ] I'm not interested.

3. *About Women and "Banned Substances" by Bryan Haycock, MS*
[ ] It was good.
[ ] It was okay.
[ ] I didn't like it.
[ ] I'm not interested.

4. *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

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

Best regards,

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