



Maximize the Power of Your Own Anabolic Hormones by Harnessing the Magic of Insulin

Insulin

Everything about muscle building starts and continues with insulin. Although scientists considered insulin the anabolic regulator of muscle, most gym goers poorly understand the hormone, which is validated by observing their common eating patterns, as well as the fact that many of these regular exercisers look the same every day when it's quite obvious they are striving to look more muscular.

To stimulate muscle growth, one must disrupt the status quo by adding additional stresses to the working muscles. Some form of resistance training is generally the method of choice to inflict the intended muscle damage. But that said, the goal of any muscle building or performance-enhancing program is to synthesize more muscle than your training tears down. You want to minimize the necessary exercise damage, while maximizing the repair/building process, so at the end of the day you increased muscle size as opposed to simply maintaining it.

Insulin as the anabolic regulator

Insulin starts and continues the muscle building process, but the hormone also plays a major role in minimizing the damage caused by exercise.

Strength training initiates the release of the catabolic hormones cortisol and epinephrine, which work to breakdown glycogen and muscle protein to supply energy and produce work, but this process also causes the muscle damage. And though you need to be able to train hard enough to continue to stimulate growth, if you can mitigate the tissue damage during and after exercise, your body will spend more time building new muscle rather than constantly repairing it, allowing you to avoid the all-to-common training plateaus. In other words you want to *add* new/more muscle not just repair the old.

There are certain times when "metabolic windows" of growth opportunity are open. This means muscle cell nutrient sensitivity is heightened, and insulin is the hormone that starts the cascade of muscle-building events during these periods.

By stimulating insulin at specific times with the proper carbohydrate intake before, during and after

exercise, you can significantly decrease muscle breakdown (catabolism) including blunting the rise in cortisol, while dramatically accelerating muscle building (anabolism). Through simple but accurate dietary management, we can unlock all of insulin's many muscle-building properties in order to turn on and keep running all the body's "muscle building machinery".

Insulin's primary muscle building properties

- Stimulates protein synthesis by increasing muscle-building enzymes and other hormones
- Increases glucose, amino acid transport and blood flow into muscle cells
- Reduces protein degradation

The bottom line is that by managing insulin through proper carbohydrate intake at all meal times (see the sample anabolic diet plan), one can positively affect other anabolic hormones (testosterone, IGF-1, etc.) while blunting catabolic (cortisol) hormones, allowing for faster and bigger muscle recovery and obviously better workouts, which in itself makes an additive contribution to improving training outcomes – talk about a win/win!

Now, with the hormonal environment perfect, what else do we need to do to maximize gains?

Your nutrient intake must include all the "stuff" that will or has been used or damaged during the training bout. Of course, we want to supply more of these nutrients than are degraded, with the goal of having the surplus deposited in muscle tissues leading to an increase in size and/or strength. The trick is to accomplish the size and strength increase without gaining body fat. In fact, done properly, one can lose body fat in the process.

Protein

Goal: supply more protein than is used daily, and in the proper increments and timing, in order to take advantage of the insulin-stimulated growth environment.

Apex BCAA with high leucine content

Goal: decrease the BCAA breakdown from the muscle during exercise by supplying the amino acids before the workout with the pre-exercise snack. And by supplying the BCAA with a post exercise high CHO snack immediately following training, one can take advantage of the insulin-stimulated growth environment and increased protein synthesis while replacing the large quantities of BCAA used during exercise.

Apex Glutamine

Goal: this amino acid supplies ~ 30% of the nitrogen that muscle cells use to synthesize protein. There are times when the demand for glutamine exceeds its stores, so Glutamine supplementation is used to decrease muscle breakdown, help restore glycogen, increase protein synthesis (cell volumizer) and support the typical athletic-stressed immune system.

Apex Creatine including Volumizer

Goal: supply large amounts of creatine with CHO (CHO stimulated insulin significantly improves creatine muscle cell uptake) throughout the day because (1) a fully loaded Phosphocreatine (PC) system can stimulate protein synthesis through creatine's ability to volumize (swell) cells and high levels of skeletal muscle creatine act as a chemical signal to keep synthesizing muscle; and (2) high muscle levels of creatine increase strength thus enhance workouts leading to a greater recovery response (i.e. bigger muscles).

Apex Methoxybolic: final touch and for cycling purposes

Goal: (1) Take advantage of the higher testosterone from the CHO insulin stimulation and direct daily nutrient intake to the natural muscle-building machinery and away from the fat-building machinery (known as nutrient partitioning). (2) Reduce any extra estrogen production that may be caused by the increase in testosterone. (3) Block cortisol from catabolizing muscle during stress (before and after workouts) so more building takes place than repair, allowing the body to take full advantage of the extra testosterone. The anti-catabolic effects of this product attack the problem from a different mechanism than insulin or testosterone, giving the body even more protection from exercise-induced catabolism.

Summary

The secret to naturally achieving a body's full potential for muscle size, strength or performance without gaining unwanted body fat is matching the proper training with a food and dietary supplement plan that can promote an individual's internal physiological environment to it's highest capabilities of increasing size and/or performance.

Diet

Proper diet manipulations create and take advantage of "metabolic windows" throughout the day where muscle cells become highly receptive to the nutrients necessary to increase protein synthesis.

Harnessing the body's most powerful muscle building hormone, insulin, will reduce catabolism and increase anabolism leading to a maximum net increase in protein synthesis. Accomplishing the proper hormone balance for muscle building is a function of CHO, proteins and fats being supplied in proper ratios, forms and at specific times in relation to training periods while remaining within the caloric allotment dictated by body composition goals.

Dietary supplements

To keep calories within an appropriate range that does not contribute to unwanted fat stores, the primary goal of supplementing the diet is to supply specific compounds that are disproportionably involved and subsequently needed, including those used in overall energy, force production and recovery. Additionally, these specific compounds must be supplied in greater amounts than are used so that a portion of their intake can be incorporated into tissues increasing muscle size.

By isolating these nutrients/compounds from food form we can supply them without the calories in order to control body composition. And because manufactured in proper forms, dosing dietary supplements allows the user to deliver the needed nutrients into the body at the exact times necessary to take full advantage of the periods when the muscle cells are most nutrient-sensitive, established by training and meal times.

Until next time,

Neal

14 Week Anabolic Supplement Program

No holds barred program

- Volumizer (10 weeks) and Apex Creatine/ Glutamine (11 weeks): follow table 1 and 2 instructions.
- BCAA: take as directed with pre & post liquid/bar snacks the entire 14 weeks.
- Methoxybolic: double recommended dose (4 tabs in AM and 4 tabs in PM) for 14 weeks.
- Apex Glutamine: add 2gms with post workout snack and 2gms at bedtime.

Economic program

- Volumizer (10 weeks) and Apex Creatine/ Glutamine (11 weeks): follow table 1 and 2 instructions.
- BCAA: take as directed with pre & post liquid/bar at start of 11th week until end of cycle.
- Methoxybolic: Start at 11th week and use until end of cycle.

Table 1 shows Apex Max Volumizer loading and maintenance procedures for each 14-week cycle. Users should repeat the cycle, if appropriate.

Table 1 Apex Max Volumizer Recommendation

Week	Tablets/Day	Time	Training Intensity
1	3	45 min before Work Out (WO)	High
2	6	4-45 min.before W.O. (remaining split throughout the day)	High
3	10	4-45 min.before W.O. (remaining split throughout the day)	High
4	10	4-45 min.before W.O. (remaining split throughout the day)	High
5	10	4-45 min.before W.O. (remaining split throughout the day)	High
6	10	4-45 min.before W.O. (remaining split throughout the day)	High
7	10	4-45 min.before W.O. (remaining split throughout the day)	High
8	10	4-45 min.before W.O. (remaining split throughout the day)	High
9	10	4-45 min.before W.O. (remaining split throughout the day)	High
10	10	4-45 min.before W.O. (remaining split throughout the day)	Peak of training or competition
11	0	0	Low/med
12	0	0	Off
13	0	0	Low/med
14	0	0	Med/high

* Dosages are calculated for an anaerobic athlete with approximately 200 pounds of lean body mass and may be adjusted according to dosage instructions.

** During non-training days, continue to split the recommended dosages throughout the day.

Table 2 Apex Max Creatine Recommendation in combination with Max Volumizer

Week	Tablets/Day	Time	Training Intensity
5	2	45 min before Work Out (WO)	High
6	3	2 tabs 45 min before WO (remaining split throughout the day)	High
7	4	2 tabs 45 min before WO (remaining split throughout the day)	High
8	5	2 tabs 45 min before WO (remaining split throughout the day)	High
9	5	2 tabs 45 min before WO (remaining split throughout the day)	High
10	5	2 tabs 45 min before WO (remaining split throughout the day)	Peak of training or competition
11	2	2 tabs 45 min before WO (remaining split throughout the day)	Low/med
12	0		Off
13	0		Low/med
14	0		Med/high

* Dosages are calculated for an anaerobic athlete with approximately 200 pounds of lean body mass and may be adjusted according to dosage instructions.

** During non-training days, continue to split the recommended dosages throughout the day.

Recommended Volumizer & Creatine Dosage

- Dosages consist of the following loading and maintenance procedure from a combination of scientific, empirical and anecdotal evidence.
- Always have approximately 20-45g of carbohydrate with each dosage.
 - Meals and drinks easily contain this amount
- Users should start slowly (1) to keep the transporters from down regulating and (2) to let connective tissue and muscle repair keep up with strength increases to avoid injury.
- Users should increase the dose weekly as shown until there is no more increase in strength or volumizing; they should use 2-wk intervals to gauge increases.
- If after 2 wks at any dose, there is not a slight improvement in strength or volumization, the body is probably fully saturated, and any extra would most likely be wasted. Users should hold this dose until the training cycle is completed.
- Creatine should be used during intense training cycles only.

Anabolic Meal Plan Instructions

Sample Diet for ~180 lbs. person with a muscle gain goal

Arrange your meals around your activities

Although the meals appear in a breakfast, lunch and dinner fashion, you must arrange the meals around your training session(s). Space your meals no more than 3-4 hours apart. Other than your pre-event meal and pre and post snacks, you may eat the remaining meals in any order that may fit your lifestyle or venue.

Large pre-training/event meal

The meal shown in the number 2 spot should be your large whole food pre-event meal and eaten approximately 2.5-3 hours before your major activity.

Pre & post-training/event snacks

Your pre-training snack should be consumed 10-40 minutes before activity and occupies the third spot on the menu. Consume half of this snack before and half immediately after exercise. The pre/post snack is usually shown in a liquid form

but you may substitute based on preference, venue and/or convenience, any of the appropriate Apex foods. Simply match the calories and carbohydrates as closely as possible. All Apex bars and shakes meet the necessary "quick digestion" criteria.

Early morning training

If you train soon after rising and have no time for complete digestion of a large meal, make sure you consume the #2 meal or the last full whole food meal on the menu (or any meal that is similar to the calories and carbohydrates in meal #2), as your final meal of the day and consume only the pre-work snack before your early morning workout.

Substituting foods or entire meals

The protein, carbohydrate and fat content of the meals (grams and calories) are simply the ideal "framework", based on your goals, for the foods of your choice to fall into. You may substitute at will—just keep the calories and grams of each food you switch as close as possible to its replacement. The only things that may change are the portion sizes and flavor.

Food Group	Exchange Amount	Meal 1	Pro	Carb	Fat	Calories
Milk-Lowfat	2.00	2 cups Milk-2%LoFat	16.3	23.4	9.4	242.5
Fruit	2.00	1 Banana	1.2	27.6	0.6	108.6
Starch	4.00	2 cups Cereal-Oatmeal-Cooked	12.2	50.6	4.7	290.2
Total:			29.7	101.6	14.7	641.3
Percent of Calories:			18.49	63.38	20.49	

Food Group	Exchange Amount	Meal 2 Pre-Event Meal	Pro	Carb	Fat	Calories
Starch	4.00	1.6 Bagel-Plain Small	11.9	60.7	1.9	312.4
Meat-Very Lean	3.00	4 oz-wt Turkey Ham Lunchmeat-Thigh	15.7	0.3	4.3	108.9
Fruit	3.00	2.25 Apricot-Halves	4.9	38.7	1.4	167.4
Total:			32.5	99.7	7.6	588.7
Percent of Calories:			22.06	67.75	11.57	

Food Group	Exchange Amount	Meal 3 Pre/Post Event Snack	Pro	Carb	Fat	Calories
Other Carbohydrates	2.00	2 Scoops Apex Fit Drink Mix (High Performance) Vanilla	20.0	30.0	2.0	220.0
Milk-Skim & Very Lo	1.50	1.5 cups Milk-1% LoFat	12.0	17.5	3.9	153.4
Fruit	4.00	2 each Banana	2.4	55.2	1.1	217.1
Total:			34.4	102.7	7.0	590.5
Percent of Calories:			23.36	69.59	10.68	

Food Group	Exchange Amount	Meal 4 Post-Event Meal	Pro	Carb	Fat	Calories
Fat-Polysaturated	4.00	10 tps Dressing-Ranch Salad	1.5	2.3	18.8	181.5
Vegetable	2.00	3 cups Salad-Tossed Vegetable-w/o dressing	5.2	13.3	0.3	66.2
Starch	4.00	1.6 cups Rice-White Long Grain-Cooked	6.8	71.3	0.7	328.6
Meat-Lean	5.00	5 oz-wt Chicken-Breast-Roasted	42.2	0.0	11.0	279.2
Fat-Saturated	1.00	0.5 tbs Butter	0.1	0.0	5.8	50.9
Total:			55.8	86.9	36.6	906.4
Percent of Calories:			24.63	38.35	36.33	

Food Group	Exchange Amount	Meal 5	Pro	Carb	Fat	Calories
Other Carbohydrates	1.00	1 Scoop Apex Fit Drink Mix (High Performance) Chocolate	10.0	15.0	1.0	110.0
Milk-Lowfat	1.00	1 cup-Milk 2% LoFat	8.1	11.7	4.7	121.3
Meat-Very Lean	2.00	1 Scoop Apex Max Whey Drink Mix Chocolate	16.0	5.0	1.5	90.0
Total:			34.1	31.7	7.2	321.3
Percent of Calories:			42.49	39.48	20.11	

Menu Totals:	186.5	422.6	73.1	3048.2
Total Calorie Percentages:	24.48	55.46	21.54	