

# Nutritional Supplements – My Perspective

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I've been involved in writing about and using nutritional supplements for over 4 decades. I first started reading about and using them when I was 14 years old. Throughout the 1960s I used mostly protein powder and tabs, desiccated liver and Brewer's yeast powder and tabs, wheat germ oil, and vitamins and minerals. These supplements, while effective for my purposes at the time, are fairly primitive when compared to what's available today. Since that time not only have the supplements become more sophisticated as far as what's in them, but also as to how they're used, including dosages and timing, and integrating them with various dieting and training phases.

While the use of nutritional supplements has increased exponentially over the years, the controversy surrounding their use, misuse and abuse, by both the manufacturers and consumers, has also continued to grow. Because of this confusion that exists in the minds of the consumers, I'm going to cover some aspects of the nutritional supplement scene that I feel may bring some light to what's going on. However, covering it all in detail is beyond the scope of any article, which is why I'm in the process of revising and expanding the *Nutritional Supplement Review* that I wrote and had published over a decade ago.

What I will do, in a rambling sort of way, is outline the reasons why a lot of people consider nutritional supplements suspect, and why they should and shouldn't. I'll also try and put supplement use in context to other factors that are important if people want to reach their goals. As well, I'll go over some of the reasons why I decided to enter the nutritional supplement fray and start up my own nutritional supplement company. And in a follow up article I'll give you some information on some of my targeted multi-ingredient nutritional supplement formulations.

## **Introduction**

One of the major problems with the supplement industry is that it's profit/market driven. But, then again, almost everything is. However, consumeritis (since I consider excessive consumption to be dysfunctional, this term seems appropriate) is definitely worsening with each passing year, and with it an escalating loss of personal identity as shopping and possessing take over our lives, and we measure who we are by what we own and consume. The end result of this quest to own and consume is a pathological state that reflects our socioeconomic circumstances and that ultimately revolves around certain inadequacies in our psyche and a failure to achieve a proper perspective.

While this isn't the place to discuss the dehumanizing effects of our marketing society and its connections to existentialism, it bears at least a cursory look as it explains much of what's going on in the nutritional supplement industry, and in fact our society. That's because 'success' in the industry depends more on smoke and mirrors than it does on the value and efficacy of the supplements being sold. And having (meaning greed in most cases greed) is everything for most supplement manufacturers, and completely overshadows any desire to produce a product that has true merit and value.

### **The Bottom Line**

Because the bottom line rules, a lot of what you get in a supplement will be determined by the way a company wants to market the product. Supplements often are designed not so much to get you a certain set of results as they are to appeal to a particular group they want to sell the supplements to. As a result, you're often buying not what you need or want, but what the supplement producer thinks you will buy or has manipulated you to buy.

'Perceived value' is of great importance here. It has much in common with that old saying: "It's not who you are that matters. It's who people think you are." Products are sold according to taste, color or what makes for a pretty or provocative label. The elements that will allow for successful advertising, which will interest you in the product regardless of the formula's overall effects are frequently the focus of the formula.

Again, most often you're not buying a formula rigorously and painstakingly designed for optimum success. You're buying a product that can be advertised in a lively manner or in a way that will make you think you're buying a winner. Whether that product is of real value can be another subject entirely.

### **Formula Design**

Formula design is often a case of either using one or two 'hot' ingredients or putting together a collection of these ingredients that have become 'buzz words' in the industry. If there's a particular ingredient out there that's been getting a lot of attention or been the focus of a lot of advertising, there's a good possibility you're going to find it in subsequent formulas of that type.

Advertising sells the great majority of supplements, and if a particular ingredient's been touted as a new 'wonder' substance, you can bet that the first company to market it is going to try to get the biggest piece of the pie as soon as possible, and most companies are going to follow the leader and include either the specific ingredient or one like it in their formulas. Whether that ingredient actually does what they say it does is, of course, often up in the air.

### **Take GAKIC, Please**

GAKIC appears to be the new kid on the block, with a massive marketing and advertising campaign that's blanketing the bodybuilding and sporting world. Promises are being made, based mainly on two studies published in 2000 and 2004 that showed that GAKIC had some beneficial, limited effects on muscle strength and energy.

But if you take a closer look, the marketing is claiming a lot more for GAKIC than it should. In fact GAKIC is being marketed and touted much the same as HMB was several years ago. HMB fell far short of its claims and eventually found its place among compounds that are only marginally effective. GAKIC, in my opinion, falls into the same category of marginally useful supplements. In fact GAKIC is quite likely much less useful than a similar amount of branched chain amino acids top heavy in leucine. But that doesn't stop the supplement manufacturers from charging a premium and disproportionate price for GAKIC and reaping the financial windfall from all the sensationalism that they've caused.

It's not that the combination of amino acids and keto acid (basically deaminated leucine) in GAKIC may not have some effects on protein synthesis and training parameters, it's just that using this combination and ignoring the more beneficial combinations of amino acids, and especially calling it the best thing since creatine, is short sighted.

For example, leucine, an important modulator of protein synthesis, while not quite as exotic as KIC, is a much better choice if one was to pick the most influential amino acids and amino acid metabolites for its anabolic and ergogenic effects. That's because leucine and KIC, both of which have been shown to have significant and somewhat distinct properties, easily interconvert. In fact some researchers feel that the effects of KIC are due to both its conversion to leucine, and the fact that it decreases the transamination and oxidation of leucine.<sup>1</sup>

KIC and HMB have both been explored over the years as potential ergogenic aids. But while some the research behind both have shown promise, real world results have been disappointing and have not lived up to the marketing hype. The same will happen with GAKIC. However, with all the marketing being done and hype being stirred up it will take a year or more for the dust to settle and for people to realize that GAKIC, while useful, is far from the anabolic solution that it's being marketed as.

Part of this delayed awareness is because there will be a strong placebo effect at first as people will be expecting great results and will be convinced that any results they get will be from GAKIC rather than from their renewed enthusiasm and hard work. But that placebo effect eventually wears off, thus revealing its true worth.

### **One Ingredient Won't Do It**

You'll also often find advertising conveniently leaving out the fact that one supplement, no matter how marvelous, is not going to build muscle all by itself. Chromium picolinate, for instance, isn't going to do much good on its own for the athlete or for people looking to improve body composition. It's important that chromium be combined with other supplements that also are working toward the same end. Though an advertisement may say an ingredient is the greatest thing since the invention of the wheel, you're going to have to have other elements of your nutritional strategy to get full use from it.

In fact, you can anticipate that most advertisers will make the assumption that you're already serious about whatever you're using the supplement for and that in the case of an athlete already have all aspects of training already dialed in. In many cases, they're doing their customers a real disservice.

The relatively new or inexperienced person is going to rely greatly on that advertising at the very beginning, and they're not going to get full value from their supplements unless they remember one important principle: **THERE'S NO FREE LUNCH**. If you want them to work, you've got to work. When you use supplements, you've got to think of them as if you're going to war and they're a bag of ammunition you're carrying into battle. If you're going to fight, that extra ammo will be a good thing to have around. But if you never see the enemy or shoot your gun, you'll be carrying a lot of extra weight and expense for nothing.

In the same way, you've got to work out or shoot your gun if you're going to take supplements. If you don't, they're going to be worthless. 'Supplements' do just that... they are a 'supplement' or 'addition' to your diet and training regimen. They don't do it alone. You've got to work to take advantage of the supplements. Likewise, the more you work the more the supplement will help you.

Unfortunately, this fact often is ignored in the literature and advertisements you'll see for supplements. Advertisers don't want to disappoint you or do anything to keep you from buying their supplements. They don't want to remind you of how much work it's going to take to get results from even the best supplement. Indeed, supplements generally work slowly. They're not an overnight success story and you've got to work to make them work. But the supplement companies conveniently forget to tell you all this because they know that it might discourage some people and keep them from buying the supplement. This is one of the main reasons I include the use of supplements in my phase shift diets. For example, in my Anabolic Solution books for powerlifters and bodybuilders, I work in the supplements with the various training phases.

### **Supplements Work Selectively**

You have to know what you're doing when you're formulating multi-ingredient supplements. It's not just a matter of figuring out all of the ingredients that other manufacturers are using and then lumping them all together to make some super formula that will do it all. That's because unless you know what you're doing and are aware of what each ingredient does and how it does it, what the various interactions are between ingredients (some ingredients will react adversely with others, or may decrease the effectiveness of other ingredients), and how much of each ingredient is optimal to get the desired results, it just won't work the way you think it will.

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As well, the lifestyle and other factors involved with the individual utilizing the supplements also can cancel an ingredient's effectiveness. My phase shift diets are a good example. While it is a superior approach to nutrition, body composition and performance, it also can have a big effect on the utility of some supplements. For instance, medium chain triglycerides (MCTs) could be a boon for some athletes, but a bust if you're on my phase shift diets because MCTs decrease the use of long chain fatty acids and of body fat as fuel.

And while lipotropic substances like niacin, inositol and methionine may increase lipolysis and serve as an anabolic driver to those on a diet low in carbohydrates, it will not have the same effect on other diets. Again, this is where targeting supplements becomes very important. Unfortunately, many of the companies in the supplement business have little awareness of these kinds of effects, and it shows in their formulations.

### **Does High Cost Guarantee Value?**

The fact is that while price may be an indicator of value, it's not always an effective way to determine a good supplement. There are products out there that are priced relatively high that deliver few results. On the other hand, you'll sometimes find a company introducing a real bargain formula that provides plenty of results at a relatively low price, both because the formulation is well thought out and it's not marked much above what it costs to manufacture.

Unfortunately the price of most products on the market doesn't usually reflect the cost of the ingredients. In fact, it's almost always proportional to the amount of money spent marketing it, the demand that's created by the marketing, and the availability in major retail outlets and major sites on the internet. As such, it's almost always the case that the product that gets the most marketing and is seen everywhere in the mags, on radio, in newsletters and on TV, and all over the internet is the one that represents the worst bang for the buck.

The best bargains come from companies run by knowledgeable, reputable people who have the expertise and know what they're doing, but who although interested in making a profit are out to provide the best product they can at a reasonable price. And they're usually able to provide this kind of effectiveness and value because they're product and not marketing oriented, which gives them the ability to keep operating costs low so that their products provide the best bang for consumer buck. But there is a caveat.

Strangely, presenting this kind of value often can work against a company. They'll design what is basically a Ferrari-type formula at the price you'd normally buy a Cadillac to give the person a break, but in many cases it doesn't work. Because the formula is priced like a Cadillac, it's perceived as a Cadillac or maybe even a Ford or Hyundai (there's that 'perceived value' again). They'll sell some of this great formula but, because their profit margin is so low, they won't have the money for advertisement and other promotions that create a 'buzz' for a product. What you end up having is this great product that's perceived as far less than it is because it's such a bargain. It's basically a Ferrari for the price of a Cadillac but, because it's being sold for less and hasn't gotten the promotional buzz, it doesn't sell as much as it deserves.

This is where a company gets into targeting for a specific market. There are all kinds of athletes and other people out there interested in body composition and performance. Some are content to drive a Ford and they'll respond to Ford type products. They'll eventually get you where you want to go. They just don't get you there as fast. They're also cheaper and they're perfectly good for the guy who has less extensive ambitions.

However at the top, you've got your Ferrari drivers. These are dedicated athletes and other people who are really serious about what they want, and they're also consumers who want the best that's out there and want the fastest results possible. Many of the athletes are either high level elite athletes or pros and they want the very best because they want to get that extra edge the higher quality supplement will give them.

The bigger companies are going to make an attempt to provide products for both the low and high end markets and they'll do OK for the cheaper, less effective ones and, thus, be OK for the person who is looking for slower growth. But they won't be able to provide the Ferrari level supplements since the price they would have to charge, because of their need for big markups to support their overhead and profit structure, would be so high that no one would buy them.

As such, the larger supplement companies always are looking for the next gimmick that they can try to turn into the next super supplement, whether it's deserved as it was with creatine, or not as it's been for almost every other 'new discovery.' The purpose behind all of this, of course, is so that they build up to be their high end product and make big bucks by changing high end prices for a product that costs relatively little to manufacture.

For example, when EAS first brought out creatine monohydrate several years ago, the list price of 100 grams of creatine monohydrate was exorbitant. Today you can purchase twenty times the amount of creatine monohydrate for the same price that they charged for 100 grams back then. And it really wasn't any more expensive for the ingredients than as it is today. But then the larger companies need to make big profits to pay for their infrastructure, their extensive marketing, including their six to ten page advertisements (which look like articles) in all the appropriate magazines, huge newspaper ads, and radio and TV advertising, and finally, but most important, to make the investors happy and their wallets fat...

The larger supplement companies need to make a big return on the supplements they sell. Usually a minimum of 8 to 10 times manufacturing costs. In some cases it's as high as 50 times or more. If we translate this need for a high resale value in relation to manufacturing costs we'll see that these companies simply can't spend big bucks manufacturing high end products since they would have to price these out of reach for all but the wealthiest of consumers. On the other hand, a smaller, smarter, more focused and dedicated manufacturer can provide a high end product, assuming they have the knowledge and expertise, and make it affordable. The bottom line is that if you take a product costing, say, \$20 to manufacture and is sold at retail for \$70 by the smaller more competitive, but less known, manufacturer, this same product would have to be sold for \$180 to \$200 by the big manufacturers according to their corporate needs.

One of the big factors in working out what supplements are best for you is in deciding what kind of driver you're going to be, figuring out who the products you're interested in are being marketed by and for and then determining your best value based on your needs and goals.

## Compromises

As the reader can tell, quality can be an elusive concept in the supplement field. The definition of 'quality' will differ from company to company, and product to product, and there's some justification to this. Anything that comes out of a good manufacturing plant can boast of having 'quality.' All the products they make will, after all, be done in the same plant with the same processes and care. None will be made in a cheap, back room kind of atmosphere.

It's just that, as above, there will be different grades of ingredients. Some will be of Ford quality, some of Cadillac quality and some on the Ferrari side. They'll all be made well and have 'quality' in their own right, but some will be made better and comprise more effective formulas than others. As such, the term 'quality ingredients' may not mean all that much when you see it on a label.

This definition of 'quality' will also change as you move between supplement companies. To one company, 'quality' will mean a formula that works to one extent or another, but doesn't cost much. Another company may come to a manufacturer and say 'price is no object' and they'll make the Ferrari-type formula comprised of the best, most expensive ingredients available. Their definition of 'quality' is whatever works best regardless of price.

These companies are few and far between, however. More often a company will come to a manufacturer and say 'cost is not a problem,' only to change their tune when the price tag for the formula gets back to them. Their Ferrari outlook on 'quality' suddenly reverts to a Ford level when the bottom line appears.

Often, as described above, the company's been looking at the labels from another company's products and taking the cue from them. They see an intriguing ingredient listed, want to put it into their formula and find it's so expensive they can't afford it at the strength necessary to get results and make the necessary profit. And so, they end up putting less than necessary into the formula.

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In some cases a company will make a reasonable formulation as far as the ingredients, but use only minimal amounts of the expensive and more effective ones. To make it look like the product is substantial, they'll do one of two things, or both. They may put in more filler and/or more of the inexpensive ingredients, or they'll simply use capsules instead of compressed tabs so that it appears that there's a lot to the product. Capsules aren't very useful if the formulation is a hefty one containing many ingredients that target a certain effect. That's because capsules aren't practical in these heavy duty formulations since they usually hold about 4 times less than specially compressed tablets.

The fact is that there is very little 'cut and dried' about the supplement business, and this makes it hard for the outsider to understand. There's always compromises going on and give and take between factors like cost, nutrients, and format. Very seldom is someone going to devise a supplement without surrendering to some of these compromises. But when you find a company like that it's like striking gold, since you're going to see results like you've never seen while using that company's supplements.

### Taste

Taste is one of those areas where compromises are often made with supplements. It's more expensive to have a product with all natural flavors, but some ingredients take so much flavoring to make them taste good that the price for the product goes sky high. Flavoring may end up costing more than the ingredients themselves. In this case, many people go to artificial flavorings. It's cheaper and easier because you can get a higher level of taste with less of the artificials. You don't see the supplement company putting this information on the label, but it's one of the tradeoffs they often make in minimizing costs.

This is especially important in the health food market where taste is very important. If it tastes rotten, Joe Granola may avoid the product. It's less important in bodybuilder formulas because the bodybuilder often doesn't care what a supplement tastes like as long as he gets results. Sometimes, though, the taste of an ingredient can be so terrible that it's even hard to come up with a top potency supplement. Amino acids, for instance, taste awful and a company often will compromise the quality of aminos, not only to limit cost, but to make the product more palatable. Those powdered amino acid formulas often are quite weak and, while they may not taste so bad, they don't provide much in the way of results. You're better off swallowing some concentrated amino acid tablets rather than choking down the amino acid mixture.

But you can't ignore the fact that the people who take supplements will be entirely human. They're going to like those things that taste good, smell good or help them have a good time. Even savvy bodybuilders, powerlifters and other athletes, who know the importance of supplements in providing a diet for growth, are susceptible to these things. As a result, these factors must be considered in the making of a supplement. Not even the Ferrari-type formulas are totally immune from them.

As an example I initially tried putting my pre-workout formula in powder format and it just didn't work. Even I couldn't choke it down, and I've gulped down some horrendous tasting shakes back in the 1960s and 70s containing things like desiccated liver powder, amino acids, eggs, and soy protein, and without any carbs to soften the taste.

### Stacking the Odds

Most supplement companies and their proxies, whether magazines that are advertorial in their poorly disguised connections to various supplement companies, or outlets that have vested interests, are motivated financially to bending the truth, if not outright lying about their promises and guarantees. By making a supplement look good, regardless of its real utility and often at the expense of others, and keeping people in the dark about what ingredients could and couldn't deliver, they hope to increase their bottom line.

Not that this is anything new. Journalism and financial interest have a tendency to meld together in our society. From the very beginning, articles in influential sport, fitness and bodybuilding magazines have been written for little more reason than selling the supplements that the editor, publisher, or writer had a financial interest in.

In fact, a lot of people still don't realize that many bodybuilding and sports magazines and organizations produce their own line of supplements. When you see some 'sensational' new product touted in a magazine, you can bet that there's a good chance the magazine has an interest in the product itself.

And then there are the advertisements that are disguised as legitimate articles. I'm sure many of you have seen 'disguised' advertisements before, but maybe you haven't recognized them. In magazines, they're generally done in the guise of 'special reports' or simply as legitimate articles, and they may look just like regular articles. But somewhere in the ad, if you look closely, you'll end up seeing the term 'paid advertisement' in the small print. This is done a great deal in women's and fitness and sport magazines today and is quite common in the industry.

This also can be done in book format, again dressed up as a 'special report.' It may appear somewhere in the middle of the book or at the end, and may look like just another chapter. It may even come with the claim that it's some kind of 'in-depth analysis' of a product, but it's really little more than an advertisement.

Some magazines today also go as far as writing a promotional article for you if you advertise. In the guise of a real news article or report, they'll talk in general about the kind of product that will be advertised and may even mention the product among all the praise. They won't give you information on how to order the product, though, or in any way tip the reader off that the article is a biased one. This often will leave the reader saying something like, "Boy, I wonder where I can find this stuff?!!" Then, suddenly on an adjoining or nearby page, will be an advertisement selling the product and telling you just where you can order it. This happens a great deal in the muscle magazines. They'll go on for pages about an ingredient or set of ingredients and then, bang, you'll run into an ad for a product that contains all those ingredients on the next page.

Again, these magazines serve as the bible for many bodybuilders and other athletes, and there's really nothing wrong with that. Just be aware that if you're reading some complimentary article about some substance and suddenly find an ad for it staring you in the face, that original article may not have been as objective as it seemed. On the other hand, this can be a valid and inexpensive way for some companies to increase awareness of their products, especially if they trade articles for ads, as I often do, and do little else to market those products. Doing this is another way to keep expenses down and offer a worthwhile product at a reasonable price.

## **Guarantees**

Most reputable supplement companies won't give you a guarantee. And there are reasons for this. The main reason is that supplements work slowly and their effectiveness largely is determined by the way they interplay with your lifestyle, nutrition, work ethic and other aspects of your training. And unlike what most people think or are led to believe, in today's market environment, a guarantee for a nutritional supplement is often a sign of a supplement that's not effective and often part of a scam.

The main reasons the not so reputable companies offer guarantees was explained to me by a supplement company that had a product on the market that was obscenely marked up. The supplement cost \$3 to make and was sold for \$150, and of course widely advertised even on TV. A few hundred thousand people were taken in by this scam and a lot of it had to do with their 'ironclad' money back guarantee. Even though the product was ineffective and a rip-off, they only had about a 10% return rate. Why? Apparently most people either think that for one reason or another it's their fault that the supplement didn't work, or because they just can't get around to returning the supplement within the allotted time (in this case 30 days). And even with the 10% return rate, they only honored about 2% of these by use of delaying and other tactics. And so, with this kind of scenario on returns and with the huge profits being made, you can see why the scammers offer guarantees on products that don't do what they're advertised to do.

In my mind offering a money back guarantee is one of the best signs that the product is overpriced and likely a scam. After all, even the best of medicines don't offer a guarantee of effectiveness, and so why should first rate supplements?

### **‘Before’ And ‘After’ Pictures**

No doubt you've seen those 'before and after' pictures for ads and testimonials in the magazines and on the Internet, where, due to some miracle product, a person is shown making remarkable changes in body composition in a few weeks or months time. The most blatant ones are those showing a bodybuilder making remarkable progress in a few weeks time, going from a wimp to a Mr. Olympia contender. It's obvious that the changes were due to extensive drug use, but they'll swear up and down, at least in the ad, that the secret to their transformation were the remarkable supplements by XYZ company. Of course, this type of deception is also seen with weight loss products, and recently I've noticed that even the UFC and Xyience have joined in to fool their fans into thinking that Xyience makes the fighter.

In most cases, these pictures are staged. In the case of bodybuilding ones, you'll often get that 'before' picture taken when the bodybuilder is just starting to get back into training or is in a bulk up phase and isn't pumping up or doing anything special to accentuate his physique. The 'after' picture will be taken several weeks later when the subject is in contest shape, usually after training hard and fine-tuning his drug regimen.

Not that this is anything new. Those 'before' and 'after' weight loss advertisements they've been running since the invention of the printing press are based on the same principles. In the 'before' picture the subject is shown relaxed with his gut hanging down, the lighting isn't flattering and he likely has on something that isn't as flattering as in the after picture. Then in the 'after' picture, he's shown cleaned up, better lighting and with his gut pulled and perhaps with some more muscle and less fat, usually not the result of using the 'supplement.'

One of the more dramatic scams of this sort involved a famous bodybuilder over 3 decades ago. This bodybuilder had his picture taken at a time when he wasn't training, had been involved in an accident and had lost a lot of weight. In other words, he was so depleted that he was ready for a dramatic rebound no matter what he did. That rebound state, along with training and optimizing his diet, and likely with the right drugs, caused him to gain an unbelievable amount of lean body mass over a few months time. The reason for this dramatic transformation was claimed to be a specific way of training. It could easily have been YXX supplements.

### **Testimonials**

Testimonials are as bad as the before and after pictures. Most of them are fabricated. There are even companies dedicated to making up testimonials for whoever needs them. Sure, testimonials can be real, and in some cases they are. But the only way you can make sure is if you somehow could contact the people making them, so that you could get the real scoop. But then that's never done because, first of all, most testimonials are phony, and secondly, even if they weren't it would be an invasion of that person's privacy to give out contact information on testimonials.

The bottom line is that most testimonials don't mean much, and so you shouldn't let them influence you one way or another. The only time they do mean something is if you find out about them from people who aren't involved with the company in question. This is called 'word of mouth,' and it's the best way, short of trying the product yourself, to find out whether a product is worth using.

### **Endorsements**

You'll also find individuals with some claim to fame, including elite bodybuilders and other athletes, and even teams touting products they may have a financial interest in. Often they'll promote some supplement in conjunction with a diet or training routine they support. They'll say things like, "I owe all this to XYZ supplements." But it's always kind of strange how the product's been out only a year or two and many of these guys having been premier bodybuilders and athletes for several years. You can't help but wonder what they did to get results before 'XYZ' supplements came along.

Of course, endorsements are nothing new. All areas of sport find athletes endorsing products today, very few of these are on the level. Some athletes actually have used the endorsed product and believe in it. Unfortunately, most haven't, and in these cases the only reason they believe in the product is because of the anabolic effects it has on their wallets.

As a result, because of the financial incentives, they'll make statements that simply aren't true. Advertisements, TV infomercials and even magazine articles will broadly overstate a product's abilities. Scientific research will be misrepresented or distorted. Preposterous claims will be made. They'll say a product is "as good or better" than anabolic steroids with "none of the side effects" when, in fact, the product may have no anabolic properties at all.

### **And So, How Do You Know What's Good?**

With all these sources of misinformation and downright lies, all to convince you to buy specific products, how do you know which products are good and will serve you well? Should you even use supplements until you've gained some knowledge of them? The fact is, it's never wrong to begin using supplements. Most of what you'll buy will be better than nothing and, as you experiment, you'll begin to learn what's good for you. In fact, that's really the best way to learn about supplements. First hand experience with products will let you know what works for you and helps you achieve your goals and what doesn't.

Many athletes today understand that nutritional supplements can get them the extra edge they need for success in competition. Unfortunately, they often get some very strange ideas about what works and what doesn't. As we've seen, a lot of this isn't their fault. The supplement industry will do virtually anything it can to get you to try its products. Biased or outright false advertising claims are commonplace.

The way this usually works is that a person will see something advertised that he likes. It usually will boast both a long list of virtues and an economical price. He'll buy the product (or be 'baited and switched' at the store) and probably find that it doesn't work quite like they said it would. At that point he'll become critical of supplements, but it's a mistake to become too critical. It's important always to keep an active mind, and be critical as well. That way you'll learn through experience, as well as by educating yourself about supplements through talking to others to see what they recommend, and reading about them in mags, books and on the Internet.

With time you'll be able to tell the hype from the reality and you'll also get a feeling of what companies are just selling the hype and which ones to trust. With all this you'll develop a fourth sense for evaluating and comparing products successfully.

### **Who's Selling the Product?**

A lot of your decision-making will be based on your knowledge of who's selling and manufacturing the product. There are people out there more devoted to developing their products than others. They're the people talking about performance on a reasonable level and delivering results. You're going to find some sizzle with any advertisement, but your job will be to find out who's delivering the steak with that sizzle and who's producing performance and not just talking about it.

The only way you're really going to be able to separate the wheat from the chaff is to know who's behind the company selling the supplements, and then see if that person or persons has any credibility and durability in the field. After all, it's not often that scammers are going to be around for a few decades or more, building up an iron clad reputation. They're more likely to hit and run and then become known for what they are.

### **Do You Really Need Supplements?**

Bottom line, supplements are playing an increasingly large role in the success of those who are looking to improve body composition and performance, and for good reason. Supplements are a proven, natural way to get that extra edge to put you over the top in achieving your goals. While it would solve a lot of problems to say that you can get all you need for maximum results merely through meals, it just isn't true.

Fact is it's virtually impossible for someone, as with any serious athlete's specialized and increased nutritional requirements to get everything he needs through diet. This is especially true when you're trying to maximize body composition and performance, and goes up another notch as you really push the envelope through the use of my phase shift diets. And it's at these times when you're striving hard to reach your goals that targeted nutritional supplements do the most good.

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The good news is that with experience, good sense and objective sources for information from people and companies that you trust, you can win the battle. Valid information, a critical eye, common sense, and personal research and experience will allow you to pick between different brands and products best. The bottom line is that supplements are the missing link in the modern body composition and performance puzzles. They can spell the difference between success and failure. For the contemporary person searching for a natural aid to achieving maximum results, learning to use them properly is absolutely essential.

### **My Involvement in the Supplement Industry**

I've been intimately involved in the international sports community for over 40 years as an athlete, administrator, physician, professor, researcher, trainer and consultant. I was an elite level powerlifter for over a decade, winning the IPF world championships in powerlifting in 1976, and the World Games in 1981, and haven't strayed far from the powerlifting, weightlifting, or bodybuilding world since then. My four decades of experience has allowed me to look at athletes and sports, and even the general public, from the perspective of health, body composition, and performance. I'm on the athlete's side because I've been in his shoes. And even though I may wear many other hats, my goal has always been and continues to be to keep a person, athlete or not, healthy and get results.

On the athletic end, I also realize that my life has been enriched a great deal through my experience as an athlete, and I feel it only fitting that I give something back to the sport. I know the frustration and desperation an athlete can feel when he's left in the dark by an industry as caught up in the bottom line as the supplement industry is today. That's why I've been involved personally and professionally for so long in studying nutrition and finding natural methods that can be employed to enhance performance and growth. With my many experiences, roles and expertise, I feel especially qualified to cut through the marketing rubbish that prevails in the supplement industry and provide nutritional supplements that not only work, but which are backed up by the literature and my own clinical and sports valuations.

My aim over the years is to provide a natural alternative to drugs. While drugs such as anabolic steroids work, athletes risk much by taking them, including their health, disqualification, and legal difficulties. Still, many decide the risk is worth it. They may become champions, but they may end up suffering severe consequences in the long run. However, I do believe that there are ways, through nutrition, to achieve at least some of the results that steroids and other drugs can provide. It may take longer, but you can get those results, or very close to them, through the proper use of nutrition, including the use of nutritional supplements.

And there are other benefits to doing it naturally, as you'll see in the next article I wrote for Synergy. For instance, the use of anabolic steroids and other hormones and drugs tend to shut down your natural machinery, so that when you go off them, you're left in a negative state... any gains disappear quickly, and often to the point where you're worse off than when you began using them.

In the case of steroids you basically produce artificially inflated muscle. The moment you go off steroids, you lose the gains you've made. You see bodybuilders in the gym all the time who look great for the half year they're on steroids. The rest of the time, they look horrible. The relative estrogen surge and testosterone lack that comes when you go off steroids can take you all the way back to square one or worse in your training.

Steroids also can make an athlete lazy. He gets growth and begins thinking he's become some kind of expert in training and nutrition, when all he's done is let the drug do it for him. Take him off steroids and his marginal training methods and approach to nutrition quickly are revealed. He loses his gains even faster because of this.

This doesn't happen when you're following a carefully planned diet and the use of effective, targeted nutritional supplements. In this case, what you gain you usually can keep, along with your health. Unlike steroids and other drugs, growth and performance with supplements does not become an 'up and down' thing.

For me, my nutritional supplement lineup is another step in my quest to provide athletes with substances that safely can enhance performance and body composition, and give them an alternative to steroids and other performance enhancing drugs. And unlike many supplements either endorsed or created by physicians (although there aren't that many of them), I not only formulate all of the supplements in my lineup, but I also oversee every aspect of the operation, from examining the ingredients, monitor the manufacturing, and following the products from the manufacturing plant to the final consumer.

And so, I endorse my products because, first of all, I use all of my experience, knowledge and expertise to formulate the best supplements that I can without cutting any corners or making any compromises. My line of supplements reflect who I am and what I know. And I don't make any bones about telling people that I own the company and, as such, have a direct financial interest in anything I sell. I don't have a problem with any of this, including marketing and endorsing my own line of products because doing so doesn't affect my credibility or my reputation.

I'm also not out to make big profits from my line of supplements. That's not to say that I'm not out to make a profit, because I am. After all, I should get some return for my time and expertise. But, I'm also out to provide a first rate product that's effective and that represents an excellent value. You can have a look at my line of supplements at [www.mdplusstore.com](http://www.mdplusstore.com) and overall info on integrating my phase shift diets with supplements at [www.MetabolicDiet.com](http://www.MetabolicDiet.com).

## Getting It Together

The first thing I tell most people who are asking me for specific advice is that in order for supplements to work you have to have your other ducks in a row. Unlike the use of drugs, where you can make gains in spite of your lifestyle, training and nutrition, if you don't have an integrated approach to everything else, the supplements by themselves won't do much. While again covering all the other factors is beyond the scope of this article, we'll touch on some of the factors, including genetics, lifestyle, training and diet, if just to put the nutritional supplements in context.

## Genetics

It's obvious that in order to excel in any sport, or to develop extensive muscularity, you have to be born with the potential to do so. And this potential means the mental as well as the physical side. Enthusiasm, dedication, fortitude and drive are just as important to ultimate success as the physical attributes.

While those who are on top, such as elite athletes, have a genetic head start, what they accomplished depends on the other factors. It's the environment that shapes the flow of genotype to phenotype. In other words, even the truly gifted have to have their potentials molded and developed by the right factors. All four environmental factors, lifestyle, training, diet and nutritional supplements must be in synch before you can reach, and sometimes even exceed, the upper limits of your natural genetic potential.

## The Usual Suspects – Lifestyle, Training, Diet and Nutritional Supplements

### The Performance and Body Composition Enhancement Pipeline

Effort is a combination of enthusiasm, motivation, genetic ability, etc. It makes up the physiological and psychological foundation for success in sports and in life. But it's not enough to give us the strength, body composition and performance results we want. For that we have to optimize our lifestyle, training, diet and nutritional supplement use.



If everything is in synch, then we'll achieve our goals, as long as they are realistic.



A weak section in the pipeline will decrease the end results.

Thus, reaching your performance and body composition goals takes a structured approach that looks at lifestyle, exercise, diet and nutritional supplements.

## Factors that Maximize the Pipeline

### Lifestyle

In order to achieve maximum progress and make full use of any supplement, the bodybuilder first must bring his lifestyle under control. Reducing stress and dealing positively with any emotional difficulties in your life is a big factor here. Stress can result in decreased levels of testosterone and increased cortisol levels in the body<sup>2</sup>. Testosterone, the hormone that stimulates sexual development and growth in males, helps to build muscle mass. Cortisol, secreted by the adrenal glands, breaks it down. It makes sense that to go for optimum growth you've got to have your life in order.

You need adequate sleep to grow. When training hard you should allow for 8-10 hours a day. This can be done either straight through at night or with 7-8 hours at night supplemented by a 1-2 hour nap in the afternoon. Sleep deprivation adversely affects testicular function, and this leads to lower levels of serum testosterone in the body<sup>3</sup>. This isn't good for building muscle mass since decreasing testosterone decreases the anabolic effect of exercise.

Recreational drug use also must be curtailed for maximum muscle gains and performance. Marijuana<sup>4,5</sup> and cocaine<sup>6,7</sup> have been shown to decrease serum testosterone, and so does alcohol<sup>8,9,10</sup>. And though a social beer or two isn't going to do too much damage, any spree or chronic usage will.

Nicotine also is used by some athletes in the belief that it will increase performance, but there has, of yet, been little in the research to support such a claim. Smoking especially is harmful and, along with its many general health risks, it's been shown to have a negative effect on athletic performance<sup>11</sup>.

As for smokeless tobacco products, though better than cigarettes, you'd still be better to avoid them. While nicotine can aid in weight loss, it is highly addictive and dramatically increases the chances of oral cancer and other disease<sup>12</sup>. It's hardly worth the risk for any small possible benefit it could provide.

## Training

In life, sometimes your greatest strength also can be the source of your biggest weakness. Exercise is like this. On the one hand, it's the most powerful and potent anabolic, muscle producing agent available to the bodybuilder. On the other, it can be the most catabolic or muscle limiting.

It is important to train to the fullest extent of your abilities. Research has shown that testosterone and growth hormone increase as exercise intensity and duration escalate. However, exercising to the point of overtraining decreases the levels of testosterone and growth hormone while, at the same time, stimulating the release of cortisol, thus leading to the cellular breakdown of protein and, ultimately, muscle.

To maximize anabolic effects in muscle and the positive effects of performance supplements, a short and intense approach to workouts is usually best for the bodybuilder. As discussed above, a workout session geared toward high intensity and limited to no more than 35-50 minutes seems wisest, although allowances can be made for personal preference and training strategy.

And while all resistance programs result in some increase in testosterone and growth hormone, it's been found that maximum natural production is achieved when training with moderately heavy weights for 6-8 rep sets with only limited rest allowed between sets. As mentioned above, if you're still doing those high volume, 2-hour marathon sessions in the gym, WAKE UP. Along with being inefficient, they may even be sabotaging your growth.

Again, it's important to stress that supplements don't work independently of other training factors. Lifestyle and the two components in 'full capacity training' not directly affected by supplements (diet and training strategy) also must be at full capacity to optimize performance and growth. Likewise, supplements must be targeted effectively to the needs of the bodybuilder, and must be taken at the right time and in the right dosages. Often in my experience, it's been not the quality of the supplement but the way it was used that limited its effectiveness.

## The Metabolic Diet

The third component of the training solution is to determine the best diet that will give us the results we want in the shortest period, and that will fit into the various training phases. In a previous article to this annual, I introduced my phase shift diets, including the Metabolic Diet, the Anabolic Solutions and the Radical Diet, new paradigms in dieting for those interested in enhancing body composition, increasing strength and athletic performance.

## Nutritional Supplements

Nutritional supplements are the fourth part of the training solution. Once you've got your lifestyle, training and diet in order, the next step is choosing and using the right nutritional supplements for the job at hand, depending on what phase of training you're in and your goals. Nutritional supplements can be the icing on the cake and can help you train more effectively, gain muscle mass and strength, and lose body fat.

The bottom line in your ability to get and maintain the body you want, and/or to increase performance, requires a coordinated wholistic approach to lifestyle, training and nutrition. This approach affects not only the body, but also the mind, with important positive psychological and emotional stabilizing effects.

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