

The Ultimate-U Supplement Guide

*by J.D. Doyle, B.S. Ed., M.Ed.,
NSPA Certified Fitness Instructor, ACE Clinical Exercise Specialist*

INTRODUCTION

In a perfect world, we would eat a perfect diet of organically produced whole foods, and supplementation would be completely unnecessary. But almost none of us live in that ideal state, and certain supplements can serve as a helpful adjunct to our diets to ensure we are getting an optimal amount of vitamins, minerals, and other nutrients.

Let me say up front that most supplements out there are total hype and bulls**t. They are promoted mainly to “supplement” the income of gym owners and fitness magazines. The majority of supplements reviewed here have been extensively researched and proven effective through independent clinical testing. Those products which have less research behind them are identified, but are recommended based on my years of experience in the field of nutritional science.

Supplements are organized into three categories. The first section includes supplements that nearly everyone should be taking, unless you are doing an exceptional job of getting these nutrients in your diet: a multi-vitamin/mineral, additional antioxidants, fish oils, and protein powders. The next section reveals what herbs and nutrients are effective for fat loss. If building muscle is your primary concern, the third section discusses the supplements proven to increase strength and hypertrophy.

The market is flooded with hundreds of supplement companies, all of them selling at least protein and vitamins. I have mainly recommended Optimum Nutrition products because they have a solid reputation (their products have been tested and approved by the independent agency ConsumerLab.com) and their prices are among the lowest we have found. Other companies are represented either because of their popularity (EAS, Met-Rx) or because they truly have a unique product that works (ErgoPharm, Avant Labs, etc.). Differences among various brands of the same supplement are discussed in the last section, *Product Notes*. Ultimate-U Fitness does not have an affiliation or economic partnership with any of the companies whose products we recommend.

This guide is not a comprehensive review of every supplement that is out there. Only products that have merit are discussed. If you have a question regarding a supplement that is not mentioned here, or for that matter any that are, feel free to contact me at jd@ultimate-u.com.

GENERAL HEALTH & FITNESS

Multi-Vitamin & Mineral

There are 22 minerals, 13 vitamins, and 6 co-factors which are essential for the body to function optimally. If even one is missing or in short supply, then the functions of all the others are impaired. The U.S. recommended daily allowance for these nutrients is pitifully inadequate for someone engaged in a regular training program. Dieting further diminishes the likelihood that you will obtain the all the vitamins and minerals from your food. A low-carb diet especially depletes magnesium, potassium, and calcium stores. In addition, foods which are not organically produced are typically missing 70-90% of the vitamins, minerals and enzymes attributed to it. Studies show that taking a multivitamin daily may help prevent disease, including a reduction in blood homocysteine levels and an improvement in the stability of their LDL blood fats. Both effects may be heart protective.

Recommended brand (s)	Ultra-Life Multi's (formulated for specific Metabolic Types) Optimum Nutrition's Opti-Men or Opti-Women
Recommended dosage	2-3 tabs/day, depending on exercise and quality of diet

EFA's/ Fish Oils

The essential fatty acids (EFA's) omega-3 and omega-6 cannot be produced by the body and are critical for the structure and function of every cell, tissue, organ, and gland in the body. The diet of primitive man consisted of a nearly equal ratio of omega-3 to omega-6 fats. Today, omega-3 fats are missing from the processed foods typically found in our diet. In fact, by some estimates the American diet consists of a 10:1 ratio of omega-6 to omega-3 fats.

Among other things, omega-3's have been proven to: boost testosterone production; help regulate insulin metabolism; lubricate joints; boost HDL (good) cholesterol production; lower LDL (bad) cholesterol production; increase fat burning (via the activity of uncoupling proteins in the mitochondria); prevent depression (by boosting serotonin production); and prevent coronary artery disease. Researchers now believe many of these benefits are specific to two sub-types of omega-3 fatty acids: DHA (docosahexaenoic acid) and EPA (eicosapentaenoic acid). Recommendations for the optimal amount of DHA/EPA intake are set at 4-6g per day.

Flaxseed oil is a good source of unsaturated fat and omega-3's. However, a recently published study shows that the actual conversion of flaxseed oil to DHA/EPA is fairly low. I recommend you supplement with one tablespoon of flaxseed oil a day (you can conveniently add this to protein shakes with little difference in taste), as well as with 3-6 fish oil gel capsules (depending on the quality of the capsules). If you're eating a good dose of salmon, herring, mackerel, sardines, or walnuts that day you can skip the capsules.

Recommended brand (s)	PBL Pure Omega-3	Now Foods Omega-3
Recommended dosage	2-4 softgels	6-8 softgels

Protein Powders

Why is it important to supplement your diet with protein? Muscle fibers are composed of proteins, which are composed of chains of amino acids. Exercise creates microscopic tears in the muscle fibers. The fibers can only grow larger and stronger if they are provided with the raw materials (amino acids) to do so.

Even if you are not exercising, adding more protein to your diet is a good idea. Your digestive system has to work so hard to break down proteins, that it actually burns a significant amount of

calories in the process. This is known as the “thermic effect” of food. Any protein that is not utilized by muscle tissue is generally burned off or excreted. Unlike dietary fat and carbohydrate, protein does not get stored as fat.

It is very difficult to get all the protein you need through whole food sources. Protein shakes are a convenient way to get the amino acids you need. They come in almost any flavor and mix easily. There are many reputable brands, but check the labels: some shakes are just protein, while others contain carbohydrates.

Whey Protein powders usually consist of protein only, with few carbs or fat. Whey has the highest biological value (BV) of any protein, the most complete spectrum of amino acids, and the highest percentage of BCAA’s (the type of amino acids that muscles prefer). Protein derived from whey is digested and absorbed more quickly than other sources. This makes whey protein the best choice to consume immediately before or after a workout. Most whey powders are a mix of peptides, concentrates and isolates. Whey isolate is the most filtrated, pure form of the protein, completely devoid of any fat or lactose.

Recommended brand(s)	Optimum Whey	Designer Whey	100% Natural CFM Whey Protein Isolate
Recommended dosage	30-40g /1.5-2 scoops	30-40g /2-3 scoops	44 g / 2 scoops

Meal Replacement (MR) powders combine a mix of protein and carbohydrates, usually with little fat. The protein blend tends to be a combination of whey, milk, caseinate (from milk), and egg. The advantage is that the protein digests more slowly, and MR’s have more calories (from carbs), both of which keep you feeling full for a longer period of time. (They also tend to taste better!) Because the majority of protein here comes from milk, MR’s are not recommended for those with lactose intolerance.

Recommended brand (s)	Met-Rx	Myoplex	Labrada Lean Body
Recommended dosage	1 pkt. (38g P, 19 C)	1 pkt. (42g P, 23 C)	1 pkt. (45g P, 24 C)

Pro-Biotics

Probiotic products contain helpful bacteria and/or yeasts that assist in balancing the levels of indigenous microorganisms in the human body. The normal human gastrointestinal tract contains hundreds of different species of bacteria, referred to as intestinal flora. Illness and disease result when the “bad” bacteria outnumber the “good” bacteria. Probiotics work by re-colonizing the small intestine with “good” bacteria and crowding out disease-causing bacteria, thereby restoring balance to the intestinal flora. They may also produce substances that inhibit pathogenic bacteria, compete for nutrients with them, and stimulate the body’s own immune system. The newest research indicates that an imbalance of mirco-flora may be responsible for obesity.

Recommended brand (s)	Ultra-Life Pro-Bio 12	Rebalanced Health Pro-Biotics
Recommended dosage	2 caps, 2x’s/day	4 caps, 2x’s/day

Fiber Capsules

Fiber is a carbohydrate necessary for optimal intestinal health. The lack of fiber on a ketogenic (low carb) diet contributes to a decrease in bowel movements, and hardening of stools. A sugar free fiber supplement can help offset this uncomfortable side effect. Fiber (natural or supplemental) also slows down gastric emptying and the absorption of carbohydrates by the intestines. Slower digestion means a decreased insulin response, which means less chance of the calories ending up as fat.

Recommended brand (s)	ANY – psyllium husks caps or powder
Recommended dosage	2-4 caps/day with meals

Calcium

Recent studies have shown that women on restricted calorie diets that were deficient in calcium were not able to lose as much fat as those who supplemented with calcium or dairy products. When calcium stores are low, a hormone called calcitriol is released. Calcitriol promotes the influx of calcium into fat cells and increases fat synthesis. When calcium is abundant, calcitriol is suppressed and the activity of uncoupling proteins is increased. The result is the loss of fat calories as heat. While dairy is the most abundant and convenient source of calcium, many are lactose intolerant or allergic to dairy. Non-dairy sources of calcium include salmon, spinach, and kale. Calcium supplementation in the form of antacid tablets are an inexpensive and convenient alternative.

Recommended brand (s)	ANY- calcium carbonate, citrate, gluconate, or coral
Recommended dosage	3 servings of dairy per day OR at least 1200 mg. calcium daily

Glucosamine & Chondroitin

If you have any type of joint pain- knee, shoulder, elbow, low back- you should be taking this supplement. Glucosamine and chondroitin sulfate supplements are used to slow the progression of osteoarthritis- the deterioration of cartilage between joint bones- and reduce associated pain. They are both naturally occurring molecules in the body. Glucosamine is thought to promote the formation and repair of cartilage. Chondroitin is believed to promote water retention and elasticity in cartilage and inhibit enzymes that break down cartilage. Research has shown the two substances work synergistically to help repair joints and prevent further deterioration. It will take at least 3 weeks of dosing before you start to notice a difference, but it is effective.

Recommended brand (s)	Optimum Glucosamine & Chondroitin
Recommended dosage	2 tabs/day (1500mg Gl./ 1200mg Ch.)

Antioxidants

Anyone who exercises regularly should include some extra antioxidants in their diet. The conversion of fats to energy is known as the oxidation process. This process generates byproducts known as free radicals. Free radicals then continue to poison your system, destroying cells and producing toxic chemicals in the body for days afterward. Exercise, for all of its benefits, only accelerates the oxidation process and produces millions of free radicals. This is part of the reason for muscle soreness and fatigue. The aging process and many cancers have also been attributed to unchecked free radical accumulation. Antioxidants neutralize free radicals, increase the efficiency of the energy cycle, lower your blood pressure, and boost your immune system. Different antioxidants neutralize different types of free radicals.

The best way to include a variety of antioxidants in your diet is to eat a wide variety of colorful, organic fruits and vegetables every day. If you are falling a bit short of that goal, it is wise to

supplement. Many antioxidants are already included in a basic multi-vitamin, but research supports supplementing with extra vitamin C and E. They are two of the most effective, and you can only fit so much of each nutrient into one multi-vitamin pill. A daily dose of 1200 mg. of vitamin C lowers risk of developing heart disease by 28%. Vitamin E also helps keep bad cholesterol from sticking to artery walls and causing heart attacks. C and E can be purchased inexpensively at any pharmacy or grocery store. Other antioxidants include (but are not limited to): selenium, green tea, l-glutathione, coenzyme Q10, alpha-lipoic acid, quercetin, grape seed extract, and milk thistle extract. Take in divided doses throughout the day, and especially after a workout.

Recommended brand (s)	Vitamin C (ANY)	Vitamin E (ANY)
Recommended dosage	1.5 grams (1500mg)	400 I.U.

DHEA (*Dehydroepiandrosterone*)

If you are over 40, you should probably be supplementing with DHEA. DHEA is a master hormone produced by the adrenal glands. It can be converted to testosterone or estrogen, depending on which hormone your body is deficient in. Considering that the production of these hormones declines significantly as we age, DHEA supplementation can result in lower body fat, more muscle growth, improved sex drive and energy levels. DHEA also improves the function of the immune system by antagonizing and neutralizing the action of glucocorticosteroids. Under stressful conditions, DHEA inhibits the expression of viral infections. Women should be cautious and experiment with lower doses, as too much testosterone production can result in undesirable side effects. Younger males (under 30) or those taking anabolic steroids should not take DHEA, as the excess testosterone will be converted to estrogen.

Recommended brand (s)	Optimum Nutrition DHEA
Recommended dosage	25-50mg, 1 tab/day in AM

DIETING & FAT LOSS

Thermogenics (“Fat-Burners”)

Traditionally, these supplements contained a combination of three ingredients which work synergistically to release adrenaline: ephedrine, caffeine, and aspirin. Adrenaline attaches to beta-receptors on fat cells, which results in an increase in body temperature and the release of fatty acids for energy. These ingredients have been proven in numerous clinical studies to be safe and effective at the recommended doses. However, due to abuse of the supplement, the FDA has now criminalized the use of ephedrine (a.k.a. ephedra, mua huang).

In its place, supplement manufacturers have substituted many other herbs and ingredients in an effort to mimic ephedrine’s positive effects without its negative side effects. Unfortunately, none of these substitute ingredients have proven to be consistently effective with human subjects in peer reviewed clinical trials. Most of the studies done with these products are conducted by the supplement companies themselves and are inherently biased. However, there has been some positive feedback on them in what studies have been conducted.

The new generation of fat burners combines caffeine (a.k.a. green tea, kola nut, or guarana) with some of these other herbs or amino acids (e.g., green tea, coleus forskholii, synepherine, hydroxy-citric acid, l-tyrosine). Caffeine, even when used alone, increases energy and inhibits the enzyme (phosphodiesterase) which inhibits fat burning, thus increasing use of fat for fuel. When used in combination with the aforementioned herbs, it may act synergistically to suppress appetite, increase fatty acid mobilization, or boost thyroid output. I recommend using these

products if or when your fat loss hits a plateau, or you need an occasional energy boost due to severe calorie restriction.

Recommended brand (s)	Muscle Tech's Hydroxycut	ErgoPharm's AMP
Recommended dosage	3 caps, 2-3x's/day	3 caps, 2-3x's/day

Green Tea/ Green Tea Extract

Regular consumption of green tea (*Camellia sinensis*) has many benefits due to the presence of polyphenols such as epigallocatechin gallate (EGCG). It provides powerful antioxidant protection by inhibiting certain aspects of the immune system response that produces allergy symptoms. It has also been proven to prevent and protect against many types of cancer. When combined with caffeine, the two have a synergistic effect to stimulate brown adipose tissue thermogenesis. This increases energy expenditure and fat utilization.

Recommended brand (s)	ANY (200 mg. green tea extract is included in recommended thermogenics <i>Hydroxycut & AMP</i>)
Recommended dosage	100-400 mg of green tea extract (90mg EGCG)/ day, in divided doses OR 3 cups of brewed green tea/ day

Yohimbine

This is a specific alkaloid of the herb yohimbe that blocks the alpha-2 adrenoreceptors of fat cells. These receptors signal the body to store fat, so any substance that inhibits their action should result in more stored fat being used for fuel. However, there have been no good human studies proving the effectiveness of yohimbine as a fat burner. Insulin blocks the effects of yohimbine, so it should not be taken with carbs. In fact, taking it either close to or with a meal completely negates its fat burning effects. For best results, you should eat nothing for at least 3-4 hours after taking yohimbine. Don't drink anything other than water. Do not use yohimbine in combination with an ephedra-based thermogenic, although it can be taken with caffeine to increase fat utilization.

Recommended brand (s)	Bulk Nutrition Yohimbine HCL	Avant Labs LipoDerm Ultra Gel
Recommended dosage	11-16mg (5-8 caps) /day	4-6 squirts, 2 x's/day

Hoodia Gordonii

Native to Africa, Hoodia was originally consumed by the nomadic Bushmen of the Kalahari Desert for thousands of years during long hunting trips to blunt hunger and increase energy. By decreasing appetite and curbing cravings, Hoodia Gordonii can be a useful addition to any fat-loss program. The good news about Hoodia is that it may suppress appetite without any stimulant effects, making it ideal to curb late night hunger pangs. The bad news is that it is relatively new, and my limited experience has shown that it works great for some people but not as well for others.

Recommended brand (s)	NOW Foods Mega Hoodia
Recommended dosage	2 caps (1g) before meals

BCAA's / L-Glutamine

BCAA's and L-Glutamine are valuable if you are concerned about losing muscle in the process of burning fat. Restricted calorie diets and long duration cardio tend to have a catabolic effect: in the process of breaking down fat for fuel, some muscle tissue is burned as well. Supplementing with these products ensures the preservation of muscle by supplying the extra amino acids the body is most likely to use for fuel.

The Branched Chain Amino Acids are L-Leucine, L-Isoleucine, and L-Valine. Many studies suggest that the BCAA's are the most important of all amino acids for muscular growth and recuperation. BCAA's are the most rapidly absorbed; in fact 70% of BCAA's immediately pass through the liver and are "pushed" into the muscle tissue where the majority of the metabolism takes place.

L-Glutamine is required by muscle tissue for proper cellular hydration, and has been found to cause extra growth hormone to be released. However, the digestive and immune systems also require a large amount of glutamine. When other body functions require glutamine, it is taken from muscle cells, resulting in catabolism (muscle tissue breakdown).

Recommended brands	Scivation X-tend (Glutamine & BCAA powder)	Xtreme Form. ICE (Glutamine & BCAA powder)
Recommended dosage	2-4 scoops before/with exercise	2-4 scoops before/with exercise

MUSCLE/MASS BUILDERS

Gatorade/ PowerAde Drinking a simple carbohydrate solution during your weight training has been found to blunt normal cortisol release and therefore spare amino acids. It will help you preserve and build more muscle, but be aware it also prevents fat from being burned for fuel. In one study those who trained while sipping Gatorade built twice as much muscle as those who didn't.

Creatine

Creatine Monohydrate has been proven to provide muscles with more ATP (energy), which results in more muscle strength and endurance. It is also known to aid in protein synthesis and water retention in the muscles. All these factors will make you look and feel "bigger". Creatine is transported into the muscle cell via insulin. Therefore, it will be more effectively absorbed when mixed with 30-40g of simple sugar.

Creatine does not need to be "micronized" or "effervescent" to lead to an increase in creatine content within your muscles. The activity of the creatine transporter enzymes is the limiting factor. Any mechanism used to saturate the muscle cells faster will only hasten creatine transporter down regulation. For that reason, it is recommended that you do not use a "loading" phase. Cycle on for about 8 weeks, then off for 3-4 weeks to let the enzymes replenish. For best results, take 5-10g along with your protein shake, immediately after a workout.

Recommended brand (s)	Optimum Creatine Powder	EAS Phosphagen Elite
Recommended dosage	5g (1 tsp.)/ day	1 scp (5g Cr, 34g Carb)

INEFFECTIVE SUPPLEMENTS

These are products that have been vastly hyped, and may still be marketed for fat loss or muscle building, but numerous studies in recent years have proven them worthless, or at best, minimally effective.

Chromium	HCA (hydroxy-citric acid)	Pyruvate
L-Carnitine	Coral Calcium	HMB
7-Keto DHEA	Chitosan (fat-trapper)	CLA
Vanadyl Sulfate	Myostatin Blockers	Ginseng
Guggulesterones	Corti-Slim	Androstenedione

TAKING THE NEXT STEP

Perhaps you are feeling a bit overwhelmed by all of this information. You want to be healthy, lose fat, and build muscle all at once, so why not just start taking everything? Aside from not being very economical, that is not the best approach.

Every individual has a unique biochemical make-up. Just as no two fingerprints or irises are identical, the optimal combination of nutrients is slightly different for each person. Certain supplements that will work wonders for one person may do nothing for another. You must experiment on yourself to discover which products produce the best results. Using a shotgun approach, you will never know.

This guide has separated the facts from the hype for you, and at least narrowed the field down to the supplements that work for most people.

Ultimate-U Fitness is now offering select nutritional supplements for sale to our clients at prices significantly discounted from standard retail. I am able to do this through distribution agreements with online vendors, and have decided to pass the savings along to you. As I stated in the *Introduction*, Ultimate-U Fitness does not have an affiliation or economic partnership with any of the companies whose products we recommend.

Feel free to contact me with any additional questions you may have about a specific product or your particular needs.

If you would like additional counseling on supplementation, nutrition, or fitness training, visit us at www.ultimate-u.com, email us at jd@ultimate-u.com, or call us at 941-726-4580.

ULTIMATE-U FITNESS SUPPLEMENTS ORDER FORM

Supplement	Price	x	Quantity	=	Total
------------	-------	---	----------	---	-------

Ultra-Life Multi's (Prices vary based on Metabolic Type-see www.ultralifeinc.com)

Ultra-Life Pro-Bio 12 (60 caps)	\$32.00				
---------------------------------	---------	--	--	--	--

Opti-Men or Women Multi (120 tabs)	\$19.00				
------------------------------------	---------	--	--	--	--

Now Omega-3 Gelcaps (180)	\$10.00				
---------------------------	---------	--	--	--	--

Now Molecularly Distilled Omega-3 (180)	\$15.00				
---	---------	--	--	--	--

Optimum 100% Natural Whey Protein Powder

2 lb. (Choc/Van/Strawb)	\$24.00				
-------------------------	---------	--	--	--	--

5 lb. (Choc/Van/Strawb)	\$38.00				
-------------------------	---------	--	--	--	--

100% Natural CFM Whey Protein Isolate - 2lb.	\$39.00				
--	---------	--	--	--	--

Recommended for those with severe Lactose intolerance or digestive distress

Flavors: Choc/Van/Strawberry/Choc. Mint/
Strawb-Banana/ Coffee

Met-Rx Protein Meal Replacement(20 pkt.) (Choc/Van/Strawb/ChocPB)	\$38.00				
--	---------	--	--	--	--

Labrada Lean Body Meal Replacement(20 pkt) (Choc/Van/Strawb/ChocPB)	\$42.00				
--	---------	--	--	--	--

Optimum Glucosamine & Chondroitin(120 tab)	\$22.00				
--	---------	--	--	--	--

Xtreme Formulations ICE (BCAAs & Glutamine)	\$29.00				
---	---------	--	--	--	--

Optimum BCAAs (200 caps)	\$17.00				
--------------------------	---------	--	--	--	--

Optimum DHEA 50mg. (60 tabs)	\$8.00				
------------------------------	--------	--	--	--	--

NOW Foods Hoodia Gordoni (60 caps)	\$19.00				
------------------------------------	---------	--	--	--	--

Bulk Nutrition Yohimbine HCL (90 caps)	\$12.00				
--	---------	--	--	--	--

POLAR HEART RATE MONITORS

(See handout or www.polarusa.com for more info)

FS1 (black or yellow)	\$48.00				
-----------------------	---------	--	--	--	--

F4- Women's (black or pink)	\$78.00				
-----------------------------	---------	--	--	--	--

F6 (black/pink/blue/grey)	\$98.00				
---------------------------	---------	--	--	--	--

	Sub-Total
--	------------------

	Ship & Handling \$3.00
--	-----------------------------------

	ORDER TOTAL
--	--------------------

PLEASE RETURN THIS FORM WITH CHECK OR CASH TO JD DOYLE OR JESSE RIVEL

