



THE GORILLA PIT
Training, Nutrition & Lifestyle

90-DAY SPARTAN CHALLENGE PHASE #1

SUPPLEMENTATION PLAN

Introduction:

Let me start off by saying that there is no magical supplement that will burn body fat and develop lean muscle while you sit on your arse, never train and can eat whatever you like. Despite what some the marketing material states, it just doesn't exist, otherwise there would be no use for this program.

Supplements are designed to fill in the gaps of your nutrition and are the icing on the cake, not the foundation of your nutrition. You can't supplement your way out of poor nutrition so get that foundation phase going before you start leaping at supplements.

Your Supplements: Weeks 1-4 The Foundation

There will be no highly marketed fat loss or fake testosterone booster supplements in this plan. Rather getting back to basics with the most underrated, yet effective supplements that will aid in improving your physique. Below are 5 foundation supplements that will improve your body composition.

Supplement #1: Hydrochloric Acid (HCL)

Do you want to sleep better, have more stamina, and achieve better body composition? Many people can't understand why they are always tired, or aren't getting significant muscle and fat loss results from their hard work in the gym. The solution is to achieve adequate stomach acid for digestion in order to break down and absorb essential protein and nutrients.

Before you take another supplement or eat a nutritious, organic meal packed with protein and antioxidants, please, please, please test your stomach acid (more on this later)! If you don't have enough stomach acid to break down food, all your careful (and expensive) supplementation and meal preparation will be ineffective.



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What is HCL?

Stomach acid is a digestive fluid formed in your stomach to break down food. It contains hydrochloric acid (HCL), potassium chloride, and sodium chloride. It activates digestive enzymes and plays a principal role in the breakdown of protein by unraveling the long chains of amino acids. The potassium and sodium chloride are rarely limiting factors in the production of stomach acid- it's the HCL that people tend to have trouble producing.

Why Should I Supplement With HCL?

Enhanced Absorption of Vitamins and Minerals

HCL is necessary for absorption and assimilation of vitamins and minerals such as B12, folic acid, vitamin C, beta-carotene and iron, by increasing their bioavailability and effecting their cleaving from food. As pointed out by Dr. Jonathan Wright, MD, Medical Director of the Tahoma Clinic, a wide number macro minerals and trace minerals have low absorption rates in cases of low stomach acid, namely calcium, magnesium, zinc, copper, chromium, selenium, manganese, vanadium, molybdenum and cobalt.

Better Digestion of Protein

HCL starts the digestion of protein structures in the stomach by transforming pepsinogen into the proteolytic enzyme, pepsin. Once it is formed, pepsin acts to break proteins into smaller fractions easier to digest fractions called peptides that can be absorbed by the small intestine. When you don't have enough gastric secretions, incompletely digested large protein molecules can be absorbed into the systemic circulation and set off a host of food intolerances.

Protection The GI Tract From Pathogens

In addition to breaking down your food properly and absorbing a host of nutraceuticals, HCL also plays an important role in maintaining a safe environment in the stomach.

HCL reaches that goal by defending against orally-ingested pathogens and creating a defensive barrier to prevent bacterial or fungal overgrowth in the small intestine.



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HCL Helps In Digesting Our Food

Of course, another great use of hydrochloric acid, or HCL, help in digesting our food. Our body is protected from this corrosive acid with a barrier from the lining of our digestive tract. Many times when people think they have too much acid, they are essentially under the barrier and the lack of acid. Yes, this acid is a good thing.

Recommendations

Your coach will take you through the HCL test to work out how much HCL you will need to supplement with.

- **Ultra HCL 4.0 (225 Caps) = \$35.00**
- **Digest Force 2.0 (180 Caps) = \$40.00**

Get It Here: <http://main.poliquinstore.com>

Reference: *'HCL...The Most Important Supplement Ever?' Article By Poliquin Group*



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Supplement #2: Fish Oil

Why Should I Supplement With Fish Oil?

Fish Oil Can Help You Lose Body Fat

Fish oil provides essential fats because it is made up of omega-3 fatty acids. Fish oil won't turn into fat in the body. Instead, the body will favorably use the fat from fish oil to build the outside lipid (fat) layer that protects our cells. The other benefit of fish oil is that it is anti-inflammatory.

You can see fish oil working its fat loss magic in a recent study that gave healthy subjects 4 grams of fish oil or the same dose of safflower oil (an omega-6 fat) for 6 weeks. The participants who took the fish oil significantly lost body fat and increased muscle mass- and they weren't even exercising!

Of interest, the participants in this study had a decrease in their levels of the stress hormone cortisol after taking the fish oil. Cortisol is a catabolic hormone that degrades muscle, leads to fat gain, and makes you feel stressed out.

Fish Oil Can Help You Build Muscle: It's Anabolic

A recent study that gave middle-age adults 4 grams of fish oil a day found that it increased protein synthesis, producing a significant muscle building effect. The mTOR pathway that produces muscle growth was enhanced by 30%, as was muscle cell membrane signaling- the same mechanism via which insulin health is improved also enhances muscle building.

Fish Oil Will Decrease Inflammation, Enhancing Body Composition

Inflammation in the body is horrible for health, but it also significantly impacts your ability to lose body fat and build muscle. I can't over stress the importance of decreasing inflammation if you want to be lean!

Fish oil has powerful anti-inflammatory properties, which is a principal reason it helps you lose fat. First, we saw that the people who took 4 grams/day of fish oil had lower cortisol at the end of the study. Anytime cortisol is unnecessarily elevated it causes inflammation and has a protein degrading effect that causes muscle and lean tissue loss.



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The anti-inflammatory evidence of fish oil goes further: It is not just chronic inflammation that fish oil can prevent. It also decreases the acute inflammatory response to intense exercise.

Fish Oil Will Increase Focus In Training

EPA regulates blood supply to the brain which is essential in maintaining focus in weight training sessions. DHA is important in brain membranes, memory and cognitive function.

Fish Oil Will Increase Serotonin Levels (the happy neurotransmitter). Fish oils will decrease incidence of depression, anxiety, panic attack and reduce carbohydrate cravings.

Fish Oil Turns On The Carnitine Enzymes

These are the enzymes responsible for the burning of body fat

Fish Oil Mitigates Insulin Response

This means that your blood sugar won't rise as quickly and sugar is less likely to go to your fat cells.

Fish Oil Has Positive Effects On Any Disease Known to Man

According to the Natural Medicines Comprehensive Database, fish oils have been shown to have medical applications in the treatment of extremely wide variety of ailments including hyperlipidemia, hypertriglyceridemia, coronary heart disease, cardiac arrhythmias hypertension, stroke, bipolar disorder, rheumatoid arthritis, psoriasis, atopic dermatitis, ulcerative colitis, Behcet's syndrome, and Raynaud's syndrome.

Fish Oil Improves Cell Membrane Health

Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), insure that cell membranes remain healthy. This means that the membranes are flexible and contain larger numbers of insulin receptors that are more receptive and responsive to circulating insulin. This results in decreased fat storage in the adipocytes (fat cells).



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Fish Oil Turns On The Lipolytic Genes

That means that the genes responsible for burning fat are activated, which means there is an increased utilization of fat stores from the adipocytes.

Fish Oil Turns Off The Lipogenic Genes

That means that the fat storage genes are turned off.

Fish Oil Is A Great Stress Fighter

Supplementation with n-3 fatty acids inhibits the adrenal activation of steroids, aldosterone, epinephrine and norepinephrine (catecholamines) elicited by a mental stress, apparently through effects exerted at the level of the central nervous system. Therefore, for the same amount of stress, one will produce fewer stress hormones if consuming fish oils on a regular basis.

Recommendations

To get the full benefits of fish oil take 10-15g per day and take it after a meal. It's best taken if spread throughout the day eg. 2-3x 5g of fish oil (Morning & Afternoon)

- **OPTI-EFA Liquid Fish Oil (Lemon) = \$22.00**
- **Omega 3 High Concentrate EPA-DHA Capsules (Lemon) = \$43.00**

Get It Here: <http://main.poliquinstore.com>

Reference: *'Why Fish Oils Are The Most Important Supplement' Article by Charles Poliquin*



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Supplement #3: Multi-Vitamin

Why Should I Supplement With A Multi-Vitamin?

A common thing we hear people say is that if you eat a balanced diet, you don't need a multivitamin formula. They tell you that you will get all the nutrients you need from your food. This is true if you lived 2000 years ago when the food quality was high and everything was grown organic. But you don't!

Modern man is exposed to environmental chemicals and radiation in levels that would probably horrify and shock you. Environmental chemicals include everything from pesticides and herbicides to Bisphenol A (BPA) that is found in many plastics, to phthalates that are in personal care products, to dyes and additives in our food. Plus, there are chemicals in dry cleaning, receipt paper, diesel fuel, regular gas, and water, among others. These environmental chemicals tend to be 'estrogenic' meaning they mimic the hormone estrogen in the body, which is one of the reasons they cause so many health problems. Additionally, radiation from your cell phone, Wi-Fi, x-rays, your computer, and power lines can damage to tissues in the body and make it harder to detoxify chemicals, compounding your problems.

How Detoxification Works

Detoxification works like this. Presently, on average you will need to detoxify over 500 chemicals a day.

If you have a nutrient-rich diet you're body will be able to detoxify these chemicals through a process called hepatic detoxification. Let's say you go to the gas station to put gas in your car and you smell the diesel fumes. Some people say it smells good. You breathe it in either way, and the smell represents chemical compounds or toxins, which we'll call XYZ compound, that enters your nasal passages and into your body. Your body has to get rid of XYZ compound. It is transported to the liver and into the first phase of detoxification or metabolism.

In phase 1 detox, your body attaches a nutrient molecule, such as vitamin B2, to all toxins, which then is called a P1 conjugate. The P1 conjugate is not clean and cannot yet be excreted by the body. The P1 conjugate goes to another region of your liver and an amino acid, such as taurine, is attached to it to make a P2 conjugate. The P2 conjugate is excreted from the body through urine, sweat, or feces.



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This is how your body metabolizes every chemical you ingest as long as you have adequate nutrients available. The problem is that the toxics we are exposed to from the environment have increased astronomically, meaning we need extra nutrients in our diet. But with nutrient-poor food, we're in trouble.

Toxins That Aren't Eliminated Are Stored in Fat

Another bit of happy news is that many toxins are stored in body fat. When you lose body fat you are releasing toxins from fat tissue into your bloodstream. This means your toxic load will increase and your liver has to detoxify all those chemicals. Remember, it needs B vitamins and amino acids to metabolize them.

This is one reason why fat loss will stall very quickly because people who are exercising and dieting will have poor nutrient levels and the toxins that are being released as their fat tissue is burned are not being properly metabolized. Rather, they are staying in circulation, leading to fat gain or a lack of fat loss. If you are trying to lose fat, it is essential that you support the metabolic process with extra nutrients.

Toxins Accumulate In Fat Over The Lifespan

In people who have poor nutrition and high chemical toxin exposure, toxins will be stored in fat deposits where they persist and accumulate over the lifespan.

Be aware that once toxins enter the body, the liver either metabolizes them or they are stored in fat and tissue. Once they take root in tissue, there are few natural means for exertion of fat-bound toxins. As mentioned, there is abundant evidence that they contribute to a range of disorders including the development of cancers such as breast, prostate and leukemia, which all originate in fatty tissues.

The Simplest Way To Support Detox

The simplest way you can support detoxification is to get adequate levels of those basic nutrients in a multivitamin. Generally, people will benefit from taking supplemental magnesium, zinc, vitamin D, and B vitamins as well. Additionally, an omega-3 supplement is critical because the only sources that even come close to providing an adequate dose of the omega-3 fats are fish, wild meats, and grass-fed beef.

The concern with getting all your omega-3s from fish is that there is abundant evidence that fish has high levels of mercury and other heavy metals. Tuna, salmon, and swordfish are all fairly large fish that have had a long lifespan in which to accumulate heavy metals.



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Most high quality omega-3 fish oils are sourced from small fish such as calamari that have much lower contamination. These supplements will also be tested for metals and other pollutants.

Aside from boosting your nutrient intake, there are other ways you can promote detoxification daily such as taking antioxidants, drinking organic green tea, and doing an estrogen detox program, but this is a topic for another article.

Who needs a multivitamin with iron?

Iron is a great nutrient, but the vast majority of men and post-menopausal women have adequate iron. Iron is a pro-oxidant, which means it is the opposite of an antioxidant and can cause damage to cells if you have too much of it. Groups who may need a multivitamin with iron are women of reproductive age, children with poor nutrition, vegetarians, anemic, and people who donate or lose blood regularly. The rest of the population will get adequate iron from meat. Women of reproductive age should generally take a multivitamin with iron.

Recommendations

Supplement with 2 tablets in the middle of your meal (2-3 times per day)

- **Multi Intense Iron Free (180 Tabs) = \$33.00**

Get It Here: <http://main.poliquinstore.com>

Reference: *'Why I Should Take A Multivitamin' Article by Charles Poliquin*



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Supplement #4: Branch Chain Amino Acids (BCAA's)

Why Should I Supplement With BCAA's?

The Basics of BCAA's

The BCAAs are made up of three essential amino, leucine, isoleucine, and valine. They are essential because the body is unable to make them out of other amino acids, meaning they must be ingested through food or supplements. The BCAAs make up 40% of the daily requirement of all nine essential amino acids, indicating their importance.

The BCAAs are found in foods containing protein, with the highest concentrations in chicken, beef, salmon, eggs, and whey protein. They can also be supplemented, which can be useful for athletes because free form BCAAs bypass the liver and gut tissue and go directly to the blood stream.

As their name suggests, BCAAs have a branched side chain that simplifies the job of converting each amino acid into energy during intense exertion. They make up about 35 percent of all muscle tissue. The more BCAAs that are present in the muscles, the more they will be used for energy, slowing the breakdown of muscles cells and preventing muscle loss.

Are BCAAs Worth It?

A common question is whether BCAA supplementation is 'necessary' or 'worth it' for athletes and body builders. Despite the fact that there's boatloads of research showing BCAAs improve protein synthesis both after resistance training and in the absence of exercise, there's not much evidence that this actually leads to greater muscle mass gains in the long term.

It appears that total protein intake above a threshold roughly defined as 1.5 g/kg is most important for gaining muscle from resistance exercise. Foods with a high BCAA content, such as whey protein, have been shown to produce greater muscle gains with resistance training.



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Based on the evidence, focusing on having a high BCAA and total protein intake will produce the greatest increases in muscle with training. The beauty of BCAA supplements is they can be easily used during exercise to reduce fatigue, accelerate recovery, reduce muscle soreness, and improve the use of fat for energy.

A few of the most compelling reasons to know about BCAAs include the following:

- BCAA metabolites were found to be a significant indicator of lean mass in a population of young and middle-aged adults.
- People who consume a threshold dose of essential amino acids that contain BCAAs with every meal have less visceral belly fat and more muscle mass.
- BCAAs trigger protein synthesis and inhibit the breakdown of muscle cells.
- In healthy people, BCAAs improve glucose uptake and insulin sensitivity. In diabetics, BCAA dietary intake with other therapeutic interventions may improve metabolic markers.
- BCAAs play an important role in muscle and energy production during exercise, which is the reason that they are often used during workouts.
- BCAAs convey many health benefits and a higher dietary intake has been identified as a predictor of longevity.
- They have been found to reduce muscle soreness from intense muscle-damaging exercise.
- They improve training motivation, especially when fatigued.

Recommendations

Supplement a divided dose of 20-40g 20min before training, during training session and post workout.

- **Instantised Branched Chain Amino Acids (IBCAA 4:1:1) = \$69.95 kg**



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Get It Here: www.professionalwhey.com.au

Note: The above recommendation is a superior product however is un-flavored and tastes quite bitter. Some people can't stand the taste of un-flavored BCAAs. We say...man up.

Reference: *'Ten Benefits of BCAAs' Article by Polquin Group*



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Supplement #5: Whey Protein

Why Should I Supplement With Whey Protein?

Supplement with whey protein to improve body composition by losing fat and gaining muscle. Studies show that adding whey protein to your diet could help to prevent weight gain because of how it improves muscle protein synthesis, suppresses hunger, and helps you burn body fat.

Increasing protein intake in general can help you lose fat because of the thermogenic effect, which is the energy cost of digesting and metabolising food. Protein produces the greatest thermogenesis, and whey protein is superior to other forms such as casein or soy for elevating the thermic effect. This is likely because whey contains more of the amino acid leucine that allows whey to enhance protein synthesis two times more than casein.

Supplementing with whey protein after working out can improve insulin sensitivity, which will support body composition. Milk proteins like whey increase insulin secretion, but if you take whey without excess carbohydrates, it will lead to lower blood glucose. The result is better insulin sensitivity and greater protein synthesis.

Whey protein can suppress appetite better than casein, soy, or egg albumin protein. The greater leucine concentration of whey protein not only activates muscle building pathways, but those same pathways signal the brain to release transmitters that blunt hunger and maintain satiety longer term. The insulin secretion related to whey may also suppress appetite, but only if whey is taken in the absence of carbs, or with carbs that produce a vary low glycemic response.

Finally, whey protein, with it's superior amino acid profile and high leucine content will minimize protein degradation and maximally stimulate muscle building. Studies show as much as 26 percent greater muscle development due to whey supplementation than soy, casein, or carbohydrates.

For best body composition results, use whey protein once a day post-workout to enhance muscle building, speed recovery, suppress hunger, and burn more energy. Take additional essential amino acids to increase your leucine intake. This is especially important for



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anyone over 40 because research shows that the muscle building pathway (called mTor) isn't 'turned on' unless adequate leucine is present.

Recommendations

Your coach will recommend how much protein to supplement with.

- **NZ Whey Protein Isolate (3kg) = \$131.85**

Get It Here: www.professionalwhey.com.au

Note: The above recommendation is a superior product however is un-flavored and tastes quite bitter. Some people can't stand the taste of un-flavored protein. We say...man up. There are however organic flavored protein at a higher cost.

Reference: *'Use Whey Protein To Improve Body Composition' Article By Poliquin Group*