

The below document is the result of my looking at various diet systems and human maladies in a systematic way. I tried to present as much primary data as possible to be convincing, rather than anecdotes.

I'd like to get across the most basic point, which has been studied at length but not fully internalized by most people, even within the community of physical culturists. Namely, that tissue growth is intimately linked to local and systemic inflammatory responses. The classic way to think about this is that building muscle uses a physical stimulus (resistance training) to create small scale injury (or at least mechanical stress) in muscle fiber. This creates a chemical cascade that includes an inflammation response. Things like oxygen depletion, arachidonic acid and IL-6 can positively modulate this response (google if interested), whereas acute use of NSAIDs has been shown to reduce rates of protein synthesis following resistance training.

In short, inflammation in a given tissue recruits growth. In muscle, that's desirable. In adipose tissue, inflammation should be avoided. For a given feeding, we want to always have a nutrient partitioning ratio that favors skeletal muscle tissue, rather than fat. The nutrient partitioning ratio refers to the propensity of muscle to take up nutrients divided by the propensity of fat to take up nutrients. In a given individual this is going to be related to the relative amount of mass of each tissue carried; muscle is metabolic currency, whereas fat cells work directly against you by increasing aromatase and insulin resistance.

This suggests that the optimal body state is one of exceedingly low systemic inflammation, with any injury or physical stimulus producing a very large ratio. The capacity of muscle has some limitation for uptake of nutrients, of course, and excess calories will begin to be stored as fat regardless. However, the efficiency of this storage process (feed efficiency, in animal husbandry) is by no means a constant and is related directly to levels of inflammation in adipose tissues.

There are many other mechanisms (hormonal status comes to mind) by which the nutrient partitioning ratio may be altered.

I fully acknowledge that many of the effects studied are minor, however I think it is important to limit the total negative load from the western diet however possible. From all of my reading about the improvement of human physiology, I conclude that fixing deficiencies or problems is far more effective than trying to improve points of strength. Hopefully this document will let those that read it identify areas for improvement with regards to their health and longevity, and give them sufficient motivation and information to make positive changes.

## **First Principles:**

### **Reduction of Simple Carbohydrate Intake**

*Simple (low GI) carbohydrates raise blood sugar levels, which is generally inflammatory to vasculature, and leads to prediabetic insulin resistance. As the human body ages, blood glucose levels generally rise, which is linked (via correlation) to a variety of ailments of aging. Unfortunately, this comprises a high percentage of the western diet – breads, flours, and processed sugars. At the very least, these items should be severely limited when possible.*

<http://content.onlinejacc.org/article.aspx?articleid=1137818>

### **Increased Quality Protein Intake**

*Increased blood branched chain amino acid levels are linked with high bone density and lean muscle retention. In particular high serum leucine levels are important in aging to maintain lean muscle mass. Muscle mass is important metabolic currency to damp out spikes in blood sugar.*

<http://www.ergo-log.com/leucine.html>

<http://www.ergo-log.com/highproteinslimfaster.html>

<http://www.ergo-log.com/muscleproteindiet.html>

<http://www.ergo-log.com/eatingmoreprotein.html>

<http://www.ergo-log.com/cardioburnsmorefat.html>

### **Quality Fats**

*Given the large caloric deficit based on reduction of simple carbohydrates, an isocaloric diet requires an increase in fat consumption. Generally, this means an increase in healthy cooking oils – butter, extra virgin olive oil, animal fats, and coconut oil.*

***Notes:** This probably increases food bills by ~30%. It's worth it. Basic meal construction is always simple: A piece of quality meat, with a cooking fat and spices to taste. Vegetables or acceptable carb choices are added to complete the meal. Keep in mind that any individual change may be small, but taken as a whole lifestyle there should be marked improvements in biomarkers and perceived quality of life (energy, etc).*

<http://www.thewholekitchen.com/why-butter-is-good-for-you-5-reasons-to-start-eating-butter/>

### **Quality Sleep**

*Granted, not a diet thing, but quality sleep is a definite factor in quality of mental and physical performance. Expounding on the scientific basis for sleep as a nootropic and performance enhancer is beyond the scope of this document, but specific recommendations will be touched on where relevant.*

<http://www.ncbi.nlm.nih.gov/pubmed/14962059>

[http://www.vrp.com/sleep-aids/does-sleep-loss-cause-weight-gain?utm\\_content=article3131](http://www.vrp.com/sleep-aids/does-sleep-loss-cause-weight-gain?utm_content=article3131)

### **Antinutrients:**

**Phytic acid (Inositol hexaphosphate)** is highly concentrated in the husks whole grains and the skins of nuts. This can be a slightly confusing antinutrient, because it has therapeutic uses as well. Phytic acid is a strong natural chelating agent, meaning it inhibits the absorption of minerals (it's postulated that the excretion of IP6 in plants is actually a defense mechanism against browsing). In certain cancers or exposures to Uranium, parenteral IP6 is used to chelate out deleterious minerals. However, as base load in a daily diet, it should be avoided. Nuts and whole grains generally should be consumed sparingly. Unwashed beans also are a candidate, and should be used somewhat sparingly due to possible gut interactions. Contributes to lowered apparent GI.

[http://onlinelibrary.wiley.com/doi/10.1046/j.1365-](http://onlinelibrary.wiley.com/doi/10.1046/j.1365-2621.2002.00618.x/abstract;jsessionid=1FA18D3109D3D4D0EE749E6128854EFD.d04t03?deniedAccessCustomisedMessage=&userIsAuthenticated=false)

[2621.2002.00618.x/abstract;jsessionid=1FA18D3109D3D4D0EE749E6128854EFD.d04t03?deniedAccessCustomisedMessage=&userIsAuthenticated=false](http://onlinelibrary.wiley.com/doi/10.1046/j.1365-2621.2002.00618.x/abstract;jsessionid=1FA18D3109D3D4D0EE749E6128854EFD.d04t03?deniedAccessCustomisedMessage=&userIsAuthenticated=false)

<http://ajcn.nutrition.org/content/77/5/1213.short>

<http://www.tandfonline.com/doi/abs/10.1080/17450399709386141>

<http://ajcn.nutrition.org/content/38/6/835.short>

<http://www.tandfonline.com/doi/abs/10.1080/10408399509527712>

**Grains/soy** – The combination of genetic modification and processing generally has lead to more inflammatory and allergic responses from corn and grains. In addition, it's likely that in the case of most mass processed grains, low levels of mold/fungus are present. Husky grains in particular are more likely to trigger poor responses. The opioid response to wheat is also troubling. Rice and oats seem to be ok, though it still has more glycemic load than you'd like. In some ways, white bread processes out a lot of the negatives at the cost of an increased glycemic index.

<http://suppversity.blogspot.com/2012/12/beyond-celiac-study-sheds-new-light-on.html>

<http://www.sciencedirect.com/science/article/pii/S0306987797902152>

<http://www.sciencedirect.com/science/article/pii/0196978184901803>

<http://www.ncbi.nlm.nih.gov/pubmed/9263067?dopt=Abstract>

<http://www.ncbi.nlm.nih.gov/pubmed/6231019>  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC201613/pdf/aem00023-0453.pdf>  
<http://www.ncbi.nlm.nih.gov/pubmed/7586128?dopt=Abstract>  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2028.2007.00744.x/abstract>  
<http://link.springer.com/article/10.1007%2Fs12550-011-0122-7>

**Bisphenol A** – *Estrogenic hormone disruptor. Trace amounts in plastics not of codes 1,2,4,5. Polycarbonate in particular without the Bpa free tag is suspect, and leeches much more with high temperatures. All canned goods, including soda, have significant levels of Bpa. Also in very high concentrations in thermal paper receipts. Probably found in shower curtains.*

<http://jama.jamanetwork.com/article.aspx?articleid=1360865#qundefined>

**Perfluorooctanoic Acid** – *PFOA is a known carcinogen – found in microwave popcorn bags and takeout pizza box liners. Also implicated in non-stick cookware, but such cookware is thermally stable unless left on a burner unattended at high heat.*

[http://en.wikipedia.org/wiki/Perfluorooctanoic\\_acid#Human\\_data](http://en.wikipedia.org/wiki/Perfluorooctanoic_acid#Human_data)

**Nitrates/nitrites** – *cancer risk, avoid processed meats that include these preservatives. Occasionally studies will come up warning people off red meat, but often these have not controlled for nitrates, and when they deconvolute the data they find it is not the red meat, but the method of cooking that is the risk factor. Check Bacon, ham, and lunchmeat labels for these.*

**Hydrogenated or high temperature oils** – *Oils that have been cooked at high temperature begin to oxidize: <http://suppversity.blogspot.com/2012/11/frying-does-not-just-oxidize-oils-it.html>*

<http://suppversity.blogspot.com/2010/12/dietary-oxidized-frying-oil-impairs.html>

This represents significant oxidative load. Personally, this is the dietary element I'm most sensitive to.

**Grilled Red Meat Char** - <http://www.cancer.gov/cancertopics/factsheet/Risk/cooked-meats> *Enough said - low temperature "Savory" style cooking is best. Grills should be avoided due to direct flame contact. I pan fry, crock pot, or bake most all my meats*

## **Carbs – avoiding breads and grains:**

I carb cycle now, and have found this lets me enjoy more High GI carbs after training. As a rule of thumb, 3g/kg lean mass is about the ceiling for enjoying post workout high GI carbs. I actually avoid fructose during this period, it's about 20% more likely to end up in the liver (and as fat through de novo lipogenesis) than glucose is, so it has a naturally worse partitioning ratio. Fructose is actually the best ANTICATABOLIC carb, so very

small doses with carb + fat meals on non lifting days will prevent protein from being utilized for gluconeogenesis.

**Green leafy/cruciferous (broccoli)** - High levels of

- Sulfanone – *antioxidant/anti-cancer*
- Indole 3 carbinol – *promotes positive estrogen metabolism*

*Green leafy vegetables are also high in minerals, particularly calcium. Calcium in vegetables is actually more bioavailable than in milk. High calcium levels decrease adiposity and improve bone density. GLVs are a very low glycemic index carbohydrate source. Kale, brussel sprouts, cauliflower, green beans, darker lettuce. Oftentimes increasing the # of servings of these requires some level of creativity. Microwave steaming is easy in a mug, but making kale chips or adding these to a blended shake can be efficacious as well.*

<http://ergo-log.com/cauliflower-broccoli-bodybuilders.html>

**Other vegetables**

*Other vegetables such as squash, zucchini and onions have other phytonutrients and are high in fiber. For delivering other vegetables, consider ways to mix them into a protein + fat dish, such as stir fries. An interesting way to deliver zucchini -*

<http://www.multiplydelicious.com/thefood/2011/09/paleo-spaghetti/>

**Flour** – *For many baking style recipes, one may substitute coconut or almond flours for improved glycemic index, decreased allergenicity, and decreased chance of mycotoxin contamination.*

**Sugar** – *substitute with Stevia, Splenda, or Xylitol. Other artificial sweeteners tend to confuse the insulin pathway.* <http://suppversity.blogspot.com/2012/09/stevia-more-than-super-sweet-more.html>

***Good dense Carb choices:***

**Yogurt – Greek or Regular**

- increase natural killer cells
- regulate gut health
- improves immune function and lowers systemic regulation
- High in protein and calcium

**Brown/wild rice** - *fine, though it should be used sparingly due to high caloric density and high GI, and ideally would be washed of proteins first to eliminate any contamination on the husk. Oats may also be OK. Most “whole grain” foods are not.*

<http://jn.nutrition.org/content/140/3/587.abstract>

**Sweet Potato / Yucca** – *Root vegetables as an option for meals higher in carbs without resorting to grains. Versatile and take well to the addition of good fats and spices. White*

*potato can be used sparingly post workout as it has an exceptionally high GI. Maca Root is a good addition, and has positive hormonal effects.*

<http://www.reparagen.com/PDF%2010.pdf>

<http://www.sciencedirect.com/science/article/pii/S0308814602001334>

<http://www.sciencedirect.com/science/article/pii/S0378874109005728>

<http://www.sciencedirect.com/science/article/pii/S096399690700035X>

<http://content.karger.com/produktedb/produkte.asp?doi=264618>

**Peas/Greenbeans** – Calories and protein dense.

**Berries** – *Berries are insanely high in antioxidants, particularly blueberries. They're also relatively fibrous and tend to be low GI. They improve mental performance, prevent cancer, and likely decrease insulin sensitivity.*

<http://suppversity.blogspot.com/search/label/blueberries>

**Mango** – *Mango is a sweet fruit, and is too high in fructose, but it has micronutrients that are potent mediators of glucose metabolism.*

<http://suppversity.blogspot.com/search/label/mango>

**Other fruits** – **Watermelon is low GI load and high in fiber.**

**Carrots** are also surprisingly high in GI, and should be used sparingly, however they make excellent broth flavoring.

**Raw Honey or Royal Jelly**- *Also a good source of sugar to be used sparingly. It's low in fructose, high in micronutrients, and is antimicrobial. Royal Jelly in particular has fascinating health benefits, though it's slightly more expensive and not nearly as tasty as pure honey, it is more complex and is by no means offensive.*

**Kombucha** – *same benefits as probiotic yogurt, but lower caloric density, or for those who can't tolerate dairy.*

<http://www.sciencedirect.com/science/article/pii/S0963996900000673>

<http://europepmc.org/abstract/MED/14631833/reload=0;jsessionid=she5lxBq60jynzIWhkH6.10>

<http://www.sciencedirect.com/science/article/pii/S0899900700003804>

**Garlic, ginger, onion** – *All high in antioxidant polyphenols. Linked to reduced inflammation and improved hormone production.*

**Beans and lentils** – Should not be used as a primary source, but can be consumed within the milieu of a low carbohydrate diet. Must be cooked thoroughly to denature lectins.

<http://jdmoyer.com/2011/02/15/to-bean-or-not-to-bean-that-is-the-question-legumes-lectins-and-human-health/>

**Peppers (Capsaicin)** – Capsaicin, in addition to adding zip to foods, decreases fat gain in high fat diets. Related to evodiamine, it should also mobilize fat to be burned. <http://ergo-log.com/diet-capsaicin-testosterone.html>

## **Proteins:**

**Only Dairy and Meat count!**

*Grass fed beef has less chance of antibiotic, or xenoestrogen contamination, has increased CLA levels, and a much superior omega 3 to omega 6 ratio.*

[http://en.wikipedia.org/wiki/Biological\\_value](http://en.wikipedia.org/wiki/Biological_value)

**Steaks** - a fairly lean and delicious source of protein. One can slow cook chopped lesser pieces of steak such as sirloin or London broil with adequate results when additional healthy cooking fats are utilized.

**Salmon** – Eat it 1-2 times per week. Just do it already, it's cheap.

**Washed Ground Beef** – for grain feed beef in particular, it's economical to buy 80% lean ground beef and use hot water to wash the fat out. After 2 cycles, you've gotten more than you would just by draining, and it's quite versatile when mixed with vegetables into a hash, or one can make chili or Italian meatsauce variations.

**Chicken/Turkey Breast (or ground)** - The king of lean meats. Great with a variety of preparations or just with simple spices and cooking oil. Can also do whole birds.

**Pork** – cheap source of fat + protein. because.. Barbecue sauces can be made with spices and tomatoes that are relatively low in sugar - <http://ditchthewheat.com/make-it-paleo-pulled-pork-barbecue/>

<http://suppversity.blogspot.com/2012/12/grass-fed-pork-not-really-still.html>

**Casein** – Very anabolic (IGF-1 signaling), but negatively indicated for some allergies, and possibly increases rate of cancer proliferation. Can make great protein bars with mixed proteins such as dymatize XT. Add a small amount of egg or coconut oil as binder if needed. If on intermittent fasting, try to keep bars as protein-only as possible. Cheese is not recommended with any regularity.

**Whey** – excellent source of fast acting protein, high in BCAA, and can be found in protein only packages, which releases GH in a spike when you are in a fasted state:

<http://www.ergo-log.com/proteinbreakfast.html>

Whey also is remarkably anti-cancer. Whey can be used as a supplement to a snack to ensure continued anabolism if one is on a muscle gaining schedule (during which protein should be spiked every 3-4 hours.)

[http://scholar.google.com/scholar?hl=en&q=whey+cancer&btnG=&as\\_sdt=1%2C8&as\\_sdtp=](http://scholar.google.com/scholar?hl=en&q=whey+cancer&btnG=&as_sdt=1%2C8&as_sdtp=)

**Eggs** – Free range is best. Good source of quality protein and fat.

**A Word on Dairy** – The fats contain estrogens if it is from a typical American Dairy farm.

[http://www.ncbi.nlm.nih.gov/pubmed/19496976?ordinalpos=11&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed\\_ResultsPanel.Pubmed\\_DefaultReportPanel.Pubmed\\_RVDocSum](http://www.ncbi.nlm.nih.gov/pubmed/19496976?ordinalpos=11&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum)

<http://www.news.harvard.edu/gazette/2006/12.07/11-dairy.html>

## **Fats:**

**Coconut oil** – Medium Chain triglycerides are preferentially burned for energy rather than stored as fat. The classic source is coconut oil. Coconut oil should be the default cooking and baking oil. <http://www.coconutresearchcenter.org/research-link.htm>

**Butter:** Specifically, grass fed butter. I use Kerrygold, which is gaining popularity and is fairly easy to find. The taste increase

<http://www.thewholekitchen.com/why-butter-is-good-for-you-5-reasons-to-start-eating-butter/>

<http://www.marksdailyapple.com/grass-fed-butter/#axzz2FF8ggkHo>

**Omega oils** – Krill, Fish or Flax oil. The order of preference is as before. Krill oil contains additional antioxidants. Fish oil should be bought from a brand that has molecularly distilled it to avoid mercury. Focus on DHA intake where possible.

**Bacon** – Paying a little more for a non-nitrate cured bacon is a great move to add savory flavors. The fat can be re-used as a cooking oil in many meals. Cook under low heat if possible. Some recommend “bacon incense” 200 degrees F for 2 hours

**Non-hydrogenated** – Hydrogenated oils drastically increase oxidative load on the body. Corn, soy, palm and vegetable oils are not the best choices for this reason. This is why I prefer natural peanut butter – no hydrogenated oils are added. Obviously trans fats are the worst of the bunch, but it’s important to understand that that’s just one extreme on the continuum of fat quality.

**EVOO** – Extra virgin, first cold pressed olive oil. Great for hormone production, antioxidant potential, and flavor. Great for making infusions as well. <http://www.ergo-log.com/slimmerwitholiveoil.html>

<http://www.ergo-log.com/olivetest.html>

<http://www.ergo-log.com/oliveadrenalin.html>

**Avocado** – an excellent complement as a whole vegetable (avocado cups) or as guacamole. Endives can be used for dipping. Lettuce leaves are great substitute tortillas.

**Nuts** - *Treated properly (soaked and removed from shells) are OK, but may cause suballergic stresses in many. A period of no nut consumption is recommended to evaluate allergenicity.*

A benefit of a high fat eating style is the variety in homemade mayonnaises – this can produce very unique and healthy ‘meat salads’.

<http://paleodietlifestyle.com/paleo-mayonnaise/>

## **Sweets/Desserts:**

REAL 70%+ Dark chocolate - Stevia chocolate would be even better, mostly because one could eat more.

<http://suppiversity.blogspot.com/2012/11/science-round-up-secds-how-colostrum.html>

<http://www.ergo-log.com/staminacocoa.html>

<http://www.ergo-log.com/cacaoendurancedrug.html>

<http://suppiversity.blogspot.com/2011/12/female-weight-loss-edc-fat-burning.html>

**Yogurt/fruit smoothie/kefir** – *All the micronutrients of yogurt, kale, ginger, and berries, along with some protein powder for a very filling and energizing smoothie. If it's too thick, let stand and drink just below room temperature – it's quite good that way.*

<http://civilizedcavemancooking.com/crockpot/apple-pumpkin-butter/>

With the flour substitutions, and Truvia (stevia or xylitol) for healthy sweetener, you can make plenty of cake and cookie type things without derailing the anti-allergenicity part of the diet (unless you are sensitive to nuts).

<http://civilizedcavemancooking.com/grain-free-goodies/paleo-banana-bread/>

## **Nutrient Timing:**

I generally adhere to leangains (16-20 hour fasting daily) in a cutting or maintenance phase. The short explanation is that fasts of that length should not have high levels of protein catabolism, but allow cells to clear debris and switch on many of the same genes associated with health and longevity (sirtuins), via the “scarcity” indicator AMP kinase being heavily phosphorylated during the fasting hours. This is counterintuitive to many, but the increase in evening carbohydrate consumption actually is efficacious.

Berkhan has noted that his female clients generally experience negative symptoms of fasting (low blood sugar, poor mood) after a shorter period, and recommends a 14-hour daily fast instead of 16 hours.

Pregnant women probably shouldn't fast at all, as fasting during pregnancy has been associated with reduced academic performance in the children.

<http://leangains.com>  
<http://ergo-log.com/carbsintheeveningonly.html>  
<http://ergo-log.com/fastingeod.html>  
<http://ergo-log.com/leanmassfasting.html>  
<http://ergo-log.com/confining-time-in-which-you-eat-makes-you-slimmer.html>  
<http://ergo-log.com/slimmer-healthier-with-part-time-fasting.html>  
<http://www.ncbi.nlm.nih.gov/pubmed/20534972>  
<http://www.leangains.com/2010/10/top-ten-fasting-myths-debunked.html>

When trying to gain muscle mass, I might still skip breakfast, but in the afternoon (10-12h fast) I'd begin eating protein only meals, then adding fats, and gradually moving to all 3 macronutrient meals.

For concered only with peak athletic performance, I'd shade even further to adding carbohydrates in all meals with a more spread out protein intake , with 1-2 longer fasting periods a week. There's only limited research to suggest that the body adapts to high protein loads by increasing rates of gluconeogenesis, and those processes are attenuated by the inclusion of a small amount of glucose/fructose with protein feedings. I'd consider this as a measure only for those people who are as lean as they desire to be

**Reduction of morning cortisol:** an ingestion of water with sea salt (I take perhaps a tsp from my hand) and vitamin C (500mg). Vitamin C directly decreases cortisol secretion, but not so much that fat loss is impinged. The salt shifts the blood balance from potassium heavy to sodium heavy, which is a normal 'wake up' function accomplished by the adrenals. This should also encourage adequate hydration (64oz+ water) throughout the day. "Endocrinology"; Effect of Osmolality on Aldosterone Secretion; E.G. Schneider, et al.; April 1985

Read more: <http://www.livestrong.com/article/523374-does-sodium-consumption-affect-aldosterone/#ixzz2FFAGiBBx>  
[http://03342db.netsolhost.com/page/the\\_importance\\_of\\_the\\_adrenal\\_cortex\\_hormones\\_cortisol\\_and\\_aldosterone.php](http://03342db.netsolhost.com/page/the_importance_of_the_adrenal_cortex_hormones_cortisol_and_aldosterone.php)  
<http://www.clinsciusa.org/cs/113/0141/1130141.pdf>

### **Coffee:**

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0032718>

Black or with a small amount of butter, grass fed heavy cream, or coconut oil, A HIGH QUALITY coffee is a great way to start the day. Commercially brewed coffee such as McDonald's, Starbucks, or Duncan Donuts is probably not going to be the best. With the fats added, it is easier to skip breakfast, and fats should partially blunt the morning cortisol spike. Coffee is a great source of polyphenol antioxidants as well. The fats also smooth out the pharmacokinetics of caffeine delivery.

**Rooibos Tea** - This is a great caffeine free alternative for the fast. Rooibos is high in quercetin and antioxidants, which increase AMPK expression and may aide fat loss during the fast.

## Supplementation:

**Aspirin** – Countless studies show 81mg of aspirin a day is anti cancer and anti heart disease. The common explanation is that it thins the blood, but it also reduces systemic inflammation, which is the start of clot formation (lowering blood sugar also decreases vascular inflammation). May also effectively combat insulin resistance in the obese starting a new diet plan.

<http://www.jci.org/articles/view/29069>

<http://cancerres.aacrjournals.org/content/53/6/1322.short>

<http://www.jstor.org/discover/10.2307/3702355?uid=3739592&uid=2&uid=4&uid=3739256&sid=21101499409131>

<http://www.jci.org/articles/view/19451>

**Grapeseed extract** –The most potent and inexpensive natural supplement that shows large anti-cancer properties, particularly against prostate cancer. Also increases vascular health by boosting nitrous oxide production. Grapeseed extract is also an aromatase inhibitor. Males over the age of 35 may find aromatase inhibition through natural or pharmaceutical methods beneficial: <http://www.ergo-log.com/letrozole2.html>

<http://ergo-log.com/grape-seed-extract-keeps-big-eaters-weight-down.html>

<http://medicalxpress.com/news/2012-01-grape-seed-neck-cancer-cells.html>

<http://suppversity.blogspot.com/2011/10/13g-of-grape-seed-extract-could-protect.html>

**K2/ MK4 or MK7, Natto** – Vitamin K2 has been shown to reverse atherosclerosis in mammals and high K2 status is associated with less cardiovascular events in humans. The function of K2 in this capacity. K2 also can cure some forms of liver cancer and is a powerful antioxidant. <http://jn.nutrition.org/content/134/11/3100.full>

<http://www.ncbi.nlm.nih.gov/pubmed/9414028>

<http://www.ncbi.nlm.nih.gov/pubmed/10750566>

<http://www.ncbi.nlm.nih.gov/pubmed/15265851>

**Piracetam / ALCAR / Vinpocetine** – The only nootropics worth buying. Acetyl L Carnitine and Piracetam can be considered general health supplements, but may also increased memory or cognition over baseline. The combination is synergistic, because increased carnitine in blood with improve production of choline in the brain without the depressive or mood stabilizing effects of direct choline sources. Vinpocetine is one of the only substances to show an increase in working memory in healthy subjects. Noopept (GVS-111) is an even more potent version of Piracetam, but may require a more direct choline source (DMAE). Generally speaking, a choline source is needed to stave off depletion due to increased cholinergic activity, but overdosing choline is counterproductive and individual experimentation is warranted. Preworkout choline may also increase the anabolic GH response somewhat due to somatostatin inhibition.

**Coq10 – Aged individuals only** – Coenzyme Q10 becomes depleted as we age. It's a powerful antioxidant and cardioprotectant. Pyrroloquinoline or vitamin E may be a good addition. <http://www.ncbi.nlm.nih.gov/pubmed/19926923>

**Rhodiola** – *For those with high levels of stress – An AMPK booster, much like fasting. Rhodiola is considered adaptogenic, meaning it normalizes the body's response to novel stressors.*

**Creatine – Most studied sports supplement of all time.** *Great for muscle, improves cognition energy. Can increase DHT levels, so not recommended for males with hair loss issues. Increases water retention (muscular and subcutaneous) and so may not be ideal for athletes focused on power per weight or aesthetics. Increases protein synthesis when taken with whey.*

**Niacin(NOT TIME RELEASE)** – *Improves Lipid Profile and can increase GH secretion.*

**Astragalus** – *Cycloastragenol lengthens telomeres (synergistic with high omega 3 status diet. Raw Herb may be sufficient due to bacterial conversion:*

<http://www.ncbi.nlm.nih.gov/pubmed/22673033>

[http://www.jimmunol.org/cgi/content/meeting\\_abstract/182/1\\_MeetingAbstracts/90.30](http://www.jimmunol.org/cgi/content/meeting_abstract/182/1_MeetingAbstracts/90.30)

*More astragalus and telomere research here:*

<http://online.liebertpub.com/doi/abs/10.1089/rej.2010.1085>

**Phosphatidylserine:** <http://www.interplexus.com/pdf/seriphos.pdf>

## Sample Menu:

<http://www.seriousseats.com/2012/12/the-food-lab-complete-guide-to-pan-seared-steaks.html>

Basically, any of the prescribed meats:

Chicken:

<http://paleodietlifestyle.com/coconut-crust-chicken-strips/>

<http://paleodietlifestyle.com/olive-garlic-lemon-chicken/>

<http://www.multiplydelicious.com/thefood/2011/08/chicken-salad-with-roasted-bell-pepper-in-avocado-cups/>

<http://www.multiplydelicious.com/thefood/2011/09/chicken-vegetable-lettuce-cups/>

<http://www.multiplydelicious.com/thefood/2011/10/lemon-herb-rubbed-chicken-with-beet-carrot-apple-salad/>

Beef:

<http://paleodietlifestyle.com/hungarian-beef-goulash/>

<http://paleodietlifestyle.com/beef-bourguignon/>

<http://paleodietlifestyle.com/taco-pie/>

<http://www.multiplydelicious.com/thefood/2011/11/sundried-tomato-pesto-bacon-wrapped-meatloaf-rounds/>

Pork:

<http://www.multiplydelicious.com/thefood/2012/01/garlic-herb-crust-pork-tenderloin/>

<http://www.multiplydelicious.com/thefood/2011/09/cinnamon-chili-pork-tenderloin-with-apple-salsa/>

Other

<http://paleodietlifestyle.com/paleo-meal-plan/>

<http://paleodietlifestyle.com/making-fresh-bone-stock/>

<http://paleodietlifestyle.com/quick-paleo-meals/>

<http://www.primal-palate.com/2010/11/mashed-sweet-potatoes.html>

<http://www.multiplydelicious.com/thefood/2012/01/skillet-sweet-potato-sausage-and-spinach-hash/>

<http://www.multiplydelicious.com/thefood/2011/08/egg-muffins/>

<http://www.multiplydelicious.com/thefood/2012/03/paleo-herb-bread/>

## IDEAL DAY

**Wake up** – Acetyl L Carnitine (Choline), Vinpocetine (Focus), ~ 1 tsp Sea Salt, 1000mg Vitamin C (cortisol reduction). ~1g Piracetam (memory + cognitive health) , 81mg Aspirin (lower systemic inflammation), 16-24oz water. Coffee or Rooibos Tea optional, and throughout the day as well (Kick start AMPK upregulation). Shower, ideally with unscented products, no plastic shower curtains (PVC releases toxins). Contrast showers may lower markers of inflammation as well.

**~3-4 pm** – Protein or BCAA only snack. Alternately, NEAA based snack. Shortening the fasting window is helpful if the goal is anabolism. Everything in this window is best accomplished with very clean and boring foods (protein powder and oatmeal).

**Pre-workout** - 5mg melatonin for fat release/GH increase during workout. 3-5 of a Bicarbonate salt to buffer muscle lactic acid. 10-15g BCAA. Trimethyl Glycine, Phosphatidylserine, or Arachidonic acid may be helpful in maximizing the training response. No Ibuprofen near workouts, as it inhibits the inflammation response.

**Post Workout** – Creatine for those taking it, 40-50g whey, 2 pills fenugreek seed. Waiting 1 hour to not blunt fat metabolism from the workout. No anti-inflammatories or antioxidants taken, as the attempt is to force adaptation.

**Dinner** - ~1.5 to 2 lbs of meat for a total of 200+g protein, with healthy fats and vegetables. Begin limiting blue light exposure (blue-blocker glasses or f.lux)

**2-3h Post Dinner** – Dark chocolate and/or yogurt smoothie with microwaved kale and berries. Royal Jelly in Yogurt. ~40g more protein. Smoothies can mix in Grape Seed extract, 1.3g per serving. Supplemental fish oil 3-10g if needed.

**Before Bed** –

*Melatonin 6mg (if needed or exposed to blue light late in the day), magnesium, zinc (both in bioavailable conjugates, rather than a multivitamin), vitamin B6, vitamin K2, Casein heavy shake with some MCTs (Muscle milk) if further anabolism is desired. Some fats must be taken to help with adsorption, otherwise the fat soluble vitamins can be moved to dinner.*

*Gelatin is an excellent low calorie before bed snack, as it has been shown to elevate growth hormone levels and the glycine content appears to help restful sleep. For insomnia, ecklonia cava extract is very inexpensive and contains a low affinity GABA agonist, as well as encouraging sex hormone production.*

<http://suppversity.blogspot.com/2011/01/melatonin-magnesium-and-zinc-for.html>