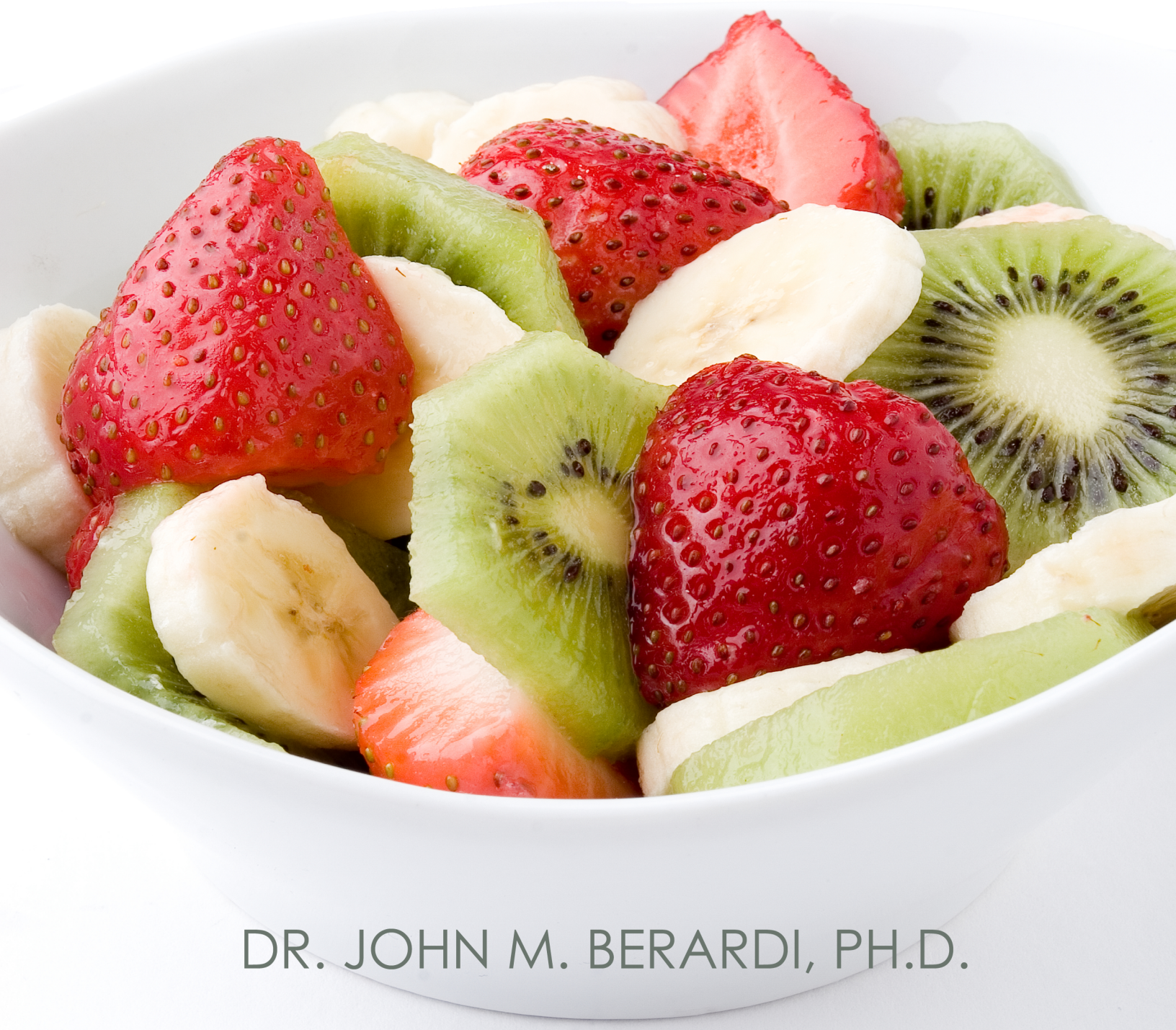
precisionnutrition

strategies for success



DR. JOHN M. BERARDI, PH.D.

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1. the rules of good nutrition

What are the rules of good nutrition? What exactly do you have to do to succeed – and importantly, what do you have to you avoid?

Take a moment and think about it.

If you want to improve the way your body looks, the way it feels, and the way it performs – and if you want to do all three simultaneously – what guidelines should you follow?

Come up with that list in your mind right now. Write it down if you can.

Now take a look over that list and think for a moment about where you learned those rules.

Some of the rules we live by are taught to us by our parents. Others come from other family and friends. Some food choices are shaped by emotional associations (real or perceived); these are the so-called comfort foods.

And of course, no one is immune to media influences. A report on the nightly news, an article in a newspaper or glossy magazine, the commercials on television. These days you can't take a step without someone reading the riot act about this or that ingredient or pitching you this or that new food product. Nutrition is the talk of the town. Heck, every 3rd episode of Dr. Phil is about food and dieting.

And, no doubt, your nutrition rules have probably been influenced by your own past attempts, successful or unsuccessful, at changing your body.

When you list all these influences, you start to notice a few things: one, that most of the influencing is done subconsciously, without our even knowing it; and two, that we're being influenced by people who know little or nothing about good nutrition.

Hey, I love my friends, I love my family, and I love reading and watching TV as much as the next guy. But I'm very selective about whom I trust, and where I do my research – and if you care about your body, then you should be too.

So let's look at what *really* works. Let's change the rules.

Before we begin, I'm going to level with you here: changing the rules means changing your habits – and it's difficult. Not only does it take a desire to change (the "want to") but also a strategy (the "how to").

The "want to" is all your own. But the "how to" is something I can help you with. It's what I do best: I've committed my career to helping people change their rules and change their habits. I've seen first hand what works and what doesn't, both in the lab and in the field, so I can help you skip the common pitfalls, bust the prevailing myths, and fast-track to success.

I'm not going to soft-pedal it, though. Depending on where you're at right now, this could mean making big changes. But by making those changes to how you eat, you'll also reap the rewards. You'll improve your mood and sense of well-being, the quality of your sleep, they way you perform in day-to-day activities or during athletic events, and of course, the way you look.

To do so requires a systematic approach, one I cover in great detail in Precision Nutrition. Here I'm going to teach you a critical part of that system, the Triple S Criterion and the 10 Rules of Good Nutrition, and if you want more help, come check us out at precisionnutrition.com. Make no mistake, though: even just by applying the principles outlined in this chapter alone, you'll be ahead of nearly 99% of all *recreational exercisers* and *elite athletes* – never mind the general population.

the triple s criterion

What's the Triple S Criterion? Well, it represents a three-step way of evaluating a strategy for its usefulness.

Step 1: Simplicity.
Are the rules easy to follow?

Step 2: Science.
Are the rules based on sound scientific principles?

Step 3: Success.
Have the rules actually worked for people like you?

No matter what nutritional information you're given, you've got to apply that three part test. If the answer to each question isn't a resounding "YES," you might as well toss the info out the window.

Think again about those nutritional rules you came up earlier, the things that have influenced your thinking. Would they pass the test? Are those rules based on simplicity, science, and success? And importantly, have they produced the desired effect, a lean, healthy body that you're able to maintain easily? Have those rules built a body that you're happy with when looking in the mirror?

If not, perhaps they could use a re-evaluation.

the 10 rules of good nutrition

Below, I'd like to present my 10 Rules of Good Nutrition, rules based on the Triple S Criterion above. In doing so, I hope to accomplish 2 goals.

First, I want to help you rethink your whole nutrition approach and provide you with a new set of nutrition rules and habits, a set that swiftly moves you in the direction of your goals.

Secondly, I want to show specifically how the strategies laid out in this book offer much more than a few ideas – they represent a complete success system, fully integrated into the basic habits of good nutrition.

So here are the 10 rules:

1. Eat every 2-3 hours.
Are you doing this – no matter what? Now, you don't need to eat a full meal every 2-3 hours but you do need to eat 6-8 meals and snacks that conform to the other rules below.

2. Eat complete, lean protein each time you eat.
Are you eating something that was an animal or comes from an animal – every time you feed yourself? If not, make the change. Note: If you're a vegetarian, this rule still applies – you need complete protein and need to find non-animal sources.

3. Eat vegetables every time you eat.
That's right, in addition to a complete, lean protein source, you need to eat some vegetables every time you eat (every 2-3 hours, right?). You can toss in a piece of fruit here and there as well. But don't skip the veggies.

4. Eat carbs only when you deserve to.

Well, not ALL carbs – eat fruits and veggies whenever you want. And if want to eat a carbohydrate that's not a fruit or a vegetable (this includes things like simple sugars, rice, pasta, potatoes, bread, etc), you can – but you'll need to save it until after you've exercised. Yes, these often heavily processed grains are dietary staples in North America, but heart disease, diabetes and cancer are medical staples – and there's a relationship between the two! To stop heading down the heart disease highway, reward yourself for a good workout with a good carbohydrate meal right after (your body best tolerates these carbohydrates after exercise). For the rest of the day, eat your lean protein and a delicious selection of fruits and veggies.

5. Learn to love healthy fats.
There are 3 types of fat – saturated, monounsaturated, and polyunsaturated. Forget about that old "eating fat *makes* you fat" maxim. Eating all three kinds of fat in a healthy balance (about equal parts of each) can dramatically improve your health, and even help you *lose* fat. Your saturated fat should come from your animal products and you can even toss in some butter or coconut oil for cooking. Your monounsaturated fat should come from mixed nuts, olives, and olive oil. And your polyunsaturated fat should from flaxseed oil, fish oil, and mixed nuts.

6. Ditch the calorie containing drinks (including fruit juice).
In fact, all of your drinks should come from non-calorie containing beverages. Fruit juice, alcoholic drinks, and sodas – these are all to be removed from your daily fare. Your best choices are water and green tea.

7. Focus on whole foods.
Most of your dietary intake should come from whole foods. There are a few times where supplement drinks and shakes are useful. But most of the time, you'll do best with whole, largely unprocessed foods.

8. Have 10% foods.
I know you cringed at a few of the rules above. But here's the thing: 100% nutritional discipline is never required for optimal progress. The difference, in results, between 90% adherence to your nutrition program and 100% adherence is negligible. So you can allow yourself "10% foods" – foods that break rules, but which you'll allow yourself to eat (or drink, if it's a beverage) 10% of the time. Just make sure you do the math and determine what 10% of the time really means. For example, if you're eating 6 meals per day for 7 days of the week – that's 42 meals. 10% of 42 is about 4. Therefore you're allowed to "break the rules" on about 4 meals each week.

9. Develop food preparation strategies.
The hardest part about eating well is making sure you can follow the 8 rules above consistently. And this is where preparation comes in. You might know what to eat, but if isn't available, you'll blow it when it's time for a meal.

10. Balance daily food choices with healthy variety.
Let's face it, when you're busy during the week, you're not going to be spending a ton of time whipping up gourmet meals. During these times you're going to need a set of tasty, easy to make foods that you can eat day in and day out. However, once every day or a few times a week, you need to eat something different, something unique and tasty to stave off boredom and stagnation.

what about everything else?

So what about caloric intake, or macronutrient ratios, or all the other technical and theoretical issues that are often debated? The short answer is that those things only become relevant once you're practicing the above-mentioned habits, and by practicing them I mean putting them to use over 90% of the time (i.e., no more than 4 meals out of an average 42 meals per week violate any of those rules).

Moreover, most people can achieve the health and the body composition they desire just by following those ten rules alone. No kidding! In fact, with some clients I've spent months just supervising their adherence to those rules. That's an effective but costly way to learn them. If you can do it on your own, you'll save money and a ton of wasted time.

Now obviously, everyone needs some individualization beyond the habits. For that, check out Precision Nutrition.

But before assuming you're ready for individualization, make sure you've truly mastered the habits. Then, while keeping the habits as the consistent foundation, tweak away.

2. eat more protein

Nowadays there are a lot of misconceptions with respect to protein intake. Should one take in 1 gram of protein per lb of body weight? Or is it 1 gram per kilogram? And, to the non-scientist, just how much is that?

Well, before discussing this issue, I think it's important to explore the difference between protein need and protein optimization. When someone asks, "How much protein should I eat?" they're usually trying to figure out how much protein they need to optimize body composition and performance. But the question, "How much protein does an athlete need?" is a very different one from "How much protein should an athlete consume to improve body composition and athletic performance?"

In the research world, the word "need" is in no way associated with optimization. Instead it's defined as the minimum amount necessary in order to prevent deficiency. Therefore, in asking how much protein an athlete needs, you're asking the question "What's the minimum amount of protein an athlete can get away with to prevent *wasting* and eventual *death*?"

Since most athletes have access to and usually consume enough protein to stave off death, the common protein question about how much protein an athlete *needs* is a bad one. The important question is really, "How much protein should an athlete consume to improve performance and body composition?"

So, how much protein *do* individuals need to optimize performance and body composition? Well, the truth is that no one knows exactly. Why? Because every individual is different.

However, what I do know is this – about 85% of all the individuals I've ever consulted with have been eating less protein than I recommend. And the first thing I do to stimulate results (and usually "results" mean body composition changes) is to increase the protein intake while making a few concomitant changes to carbs and fat intake.

Now, there are a number of reasons why I boost protein intake in most clients so I'd like to outline them in this article.

Reason #1: Increased Thermic Effect of Feeding.
While all macronutrients require metabolic processing for digestion, absorption, and storage or oxidation, the thermic effect of protein is significantly higher than that of carbohydrates and fat. In fact, protein requires 25-30% of the energy it provides just for digestion, absorption, and assimilation while carbs only require 6-8% and fat requires 2-3%. That means that eating protein is actually thermogenic and can lead to a higher metabolic rate. This means greater fat loss when dieting and less fat gain during hypercaloric diets.

Reason #2: Increased Glucagon.
Protein consumption increases plasma concentrations of the hormone glucagon. Glucagon is responsible for antagonizing the effects of insulin in adipose tissue, leading to greater fat mobilization. In addition, glucagon also decreases the amounts and activities of the enzymes responsible for making and storing fat in adipose and liver cells. Again, this leads to greater fat loss during dieting and less fat gain during overfeeding.

Reason #3: Increased IGF-1.
Protein and amino-acid supplementation has been shown to increase the IGF-1 response to both exercise and feeding. Since IGF-1 is an anabolic hormone that's related to muscle growth, another advantage associated with consuming more protein is more muscle growth when overfeeding and/or muscle sparing when dieting.

Reason #4: Reduction in Cardiovascular Risk.
Several studies have shown that increasing the percentage of protein in the diet (from 11% to 23%) while decreasing the percentage of carbohydrate (from 63% to 48%) lowers LDL cholesterol and triglyceride concentrations with concomitant increases in HDL cholesterol concentrations.

Reason #5: Improved Weight Loss Profile.
Research from Layman and colleagues has demonstrated that reducing the carbohydrate ratio from 3.5 - 1 to 1.4 - 1 increases body fat loss, spares muscle mass, reduces triglyceride concentrations, improves satiety, and improves blood glucose management.

Reason #6: Increased Protein Turnover.
All tissues of the body, including muscle, go through a regular program of turnover. Since the balance between protein breakdown and protein synthesis governs muscle protein turnover, you need to increase your protein turnover rates in order to best improve your muscle quality. A high protein diet does just this. By increasing both protein synthesis and protein breakdown, a high protein diet helps you get rid of the old muscle more quickly and build up new, more functional muscle to take its place.

Reason #7: Increased Nitrogen Status.
Earlier I indicated that a positive nitrogen status means that more protein is entering the body than is leaving the body. High protein diets cause a strong positive protein status and when this increased protein availability is coupled with an exercise program that increases the body's anabolic efficiency, the growth process may be accelerated.

Reason #8: Increased Provision of Auxiliary Nutrients.
Although the benefits mentioned above have related specifically to protein and amino acids, it's important to recognize that we don't just eat protein and amino acids — we eat food. Therefore, high protein diets often provide auxiliary nutrients that could enhance performance and/or muscle growth. These nutrients include creatine, branched chain amino acids, conjugated linoleic acids, and/or additional nutrients that are important but remain to be discovered. This illustrates the need to get most of your protein from food, rather than supplements alone.

what does this all mean?

Looking over this list of benefits, isn't it clear that for many individuals, an increase in protein intake would be advantageous for most people's training goals? Since a well-constructed high protein diet can lead to a better health profile, an increased metabolism, improved body composition, and an improved training response, why would anyone ever try to limit their protein intake to the bare minimum necessary to stave off malnutrition?

It seems to me that whether someone's on a hypoenergetic diet (fewer calories than needed for maintenance, like in a fat loss diet) or a hyperenergetic diet (more calories than needed for maintenance, like in a muscle gain diet), the one macronutrient they would want to be sure to overeat would be protein. Instead, by limiting protein intake, people are (often unwittingly) consuming the bare minimum of protein, and consequently overeating carbohydrates and fats. That's a big performance and body composition mistake.

3. balancing dietary acids

Simply put, the North American diet is very acidic. From most proteins to many dairy products (especially cheese) to most grains, we take in far more dietary acids than we do bases. And this imbalance between acid and base can cause some serious long-term health and physique problems.

You see, when a food is ingested, digested, and absorbed, each component of that food will present itself to the kidneys as either an acid-forming compound or a base-forming one. And when the sum total of all the acid producing and the base producing micro and macronutrients is tabulated (at the end of a meal or at the end of a day), we're left with a calculated acid-base load. If the diet provides more acidic components, it will manifest as a net-acid load on the body. And if it provides more basic components, it will manifest as a net-base load on the body.

As I implied above, that a net-acid load is bad. Let's discuss why.

Every cell of the body functions optimally within a certain pH range (pH is a measure of the acidity or alkalinity of the body). In different cells, this optimal range is different, however, the net pH of the body has to remain tightly regulated. One common problem with most industrialized societies is that our diets produce what's called a "low grade chronic metabolic acidosis." The potential renal acid load (or PRAL, a measure of the amount of acid being introduced through the diet) of our diets is high, meaning we're chronically in a state of high acidity.

While there are a number of disease states that induce severe metabolic acidosis, we're talking a sub-clinical rise in acidity here. Therefore, your doc probably won't notice the problem. But that doesn't mean that you're in the clear. Your cells will recognize the problem.

So what's wrong with this low-grade chronic metabolic acidosis?

Well, since the body must, at all costs, operate at a stable pH, any dietary acid load has to be neutralized by one of a number of homeostatic base-producing mechanisms. So, although the pH of the body is maintained and your blood tests turn out fine, many cells of the body will suffer. Here are some of the most severe consequences of your body's attempt to maintain a constant pH in the face of an acidic environment:

Hypercalciuria (high concentrations of calcium in the urine). Since calcium is a strong base and bone contains the body's largest calcium store, metabolic acidosis causes a release in calcium from bone. As a result, osteoclastic (bone degrading) activity increases and osteoblastic (bone building) activity decreases. The net result of these changes is that bone is lost in order to neutralize the acidic environment of the body. The calcium that was stored in the bone is then lost in the urine along with the acid it was mobilized to neutralize. This creates a negative calcium balance (more calcium is lost from the body than is consumed) and bones get weak. (2,3,4,6)

Negative nitrogen balance (high concentrations of nitrogen in urine). Glutamine is responsible for binding hydrogen ions to form ammonium. Since hydrogen ions are acidic, glutamine acts much like calcium to neutralize the body's acidosis. Since skeletal muscle contains the body's largest glutamine store, metabolic acidosis causes muscle breakdown to liberate glutamine from the muscle. The amino acids from this muscle breakdown are then excreted, causing a net loss of muscle protein. (2,7)

In addition to bone and muscle loss, other consequences of acidosis include:

- Decreased IGF1 activity (4)
- GH resistance (4)
- Mild hypothyroidism (4)
- Hypercortisolemia (4,5)

Interestingly, low-grade metabolic acidosis seems to worsen with age. Many have speculated that this is due to an age-related decline in kidney function (and acid excretion). Of course, osteoporosis and muscle wasting are unfortunate consequences of aging. While it's too early to tell, perhaps some of the bone and muscle loss evident as individuals get older is a result of diet-induced acidosis. This means that employing a few simple acid-base strategies may help slow osteoporosis and sarcopoenia.

So the big question is this – who's at risk?

Recently, Sebastian and colleagues compared the pre-agricultural diet of our ancestors to the modern North American diet. After evaluating the two diets for what they call NEAP (net endogenous acid production) — essentially the same measure as the PRAL above — a -88mEq/day acid load characterized the pre-agricultural diet while the modern diet was characterized by a +48mEq/day acid load. What this means is that our ancestors evolved eating a diet that was very alkaline/basic and therefore very low acid. However, modern people are eating a diet that is high in acid, and therefore very different from what we evolved to

eat. As a result, our modern diet is responsible for what the authors have called a "life-long, low grade pathogenically significant systemic acidosis."

How have we gotten so far off track? Well, the shift from net base producing foods to net acid producing foods comes mostly as a result of displacing the high bicarbonate-yielding plants and fruits in the diet with high acid grains. In addition, most of our modern energy dense, nutrient poor selections are also acid forming. Finally, high protein animal foods tend to be acid producing as well.

If you're now wondering how your diet stacks up, check out the online acid-base forum here: http://www.acid-base.de/. There you'll be able to calculate your PRAL and determine how much of an acid or base load your body is under.

Further, if you're ingesting too many dietary acids, as most North Americans are, here's what you can do:

1. Add more vegetables - regardless of the final tally. Everyone can always benefit from more vegetables in the diet. Many bone specialists are now recognizing that the most effective way to improve bone health is to eat lots of fruits and vegetables. Vegetables, in addition to all of their other benefits, are powerful acid-neutralizers.

2. If you're eating a big meal that's going to be a net acid producer (such as one that contains a large amount of protein and/or grains) and don't want to add more basic foods, consider adding a small amount of glutamine to this meal. Exogenous glutamine supplementation has been shown to neutralize acidosis.

3. A cheaper alternative to glutamine supplementation is either sodium or potassium bicarbonate supplementation. You can add sodium bicarbonate (in the form of baking soda) to your beverages including your protein shakes, which probably are a bit on the acidic side (see milk above). A small 2-5g dose of baking soda would be sufficient to neutralize the shake. An alternative to baking soda is Alka-Seltzer.

4. Adding sodium to foods can increase the base potential and reduce the acidity of the meal although a high salt diet isn't necessarily recommended.

Although few individuals in the exercise nutrition world are discussing this issue, it remains an important one. Employing a few simple strategies to neutralize your high-acid diet may mean the difference between chronic low-grade acidosis — and the associated muscle wasting, bone loss, and altered hormonal profile — and a healthy, alkaline diet. So make sure you're dietary acids are covered!

4. from north american to nutritious

Good nutrition, nutrition for optimal body composition (fat loss, muscle gain), optimal health, and optimal performance (sports or everyday) usually requires a move away from the typical North American dietary habits and a move toward more nutritious, physiology-friendly habits.

To shed a little bit of light on what I mean by the typical North American Diet, let's consider for a moment how the average North American lives each nutritional day.

1: Doesn't wake up early enough.
Our typical North American wakes up too close to when they have to leave, leaving little time to prepare, eat, and digest a good meal before work (whether "work" is an office job or it's training for sport). Also, our typical North American complains that they're "not hungry" in the morning.

2: Eats a nutritionally poor breakfast – or skips it entirely.
Our typical North American opts for scarfing down a quick, fast digesting breakfast that's low in calories, missing a significant protein portion, low in micronutrients and phytochemicals, low in good fats, and rich in processed, high glycemic index carbohydrates.

3: Doesn't eat enough in the morning.
Our typical North American heads to work relatively poorly fed.

4: Doesn't eat a quality snack in the morning.
Our typical North American is fairly inconsistent with his/her mid-morning snacks. Also, "snack" usually means more processed carbs and sugar without much in the way of fruits and veggies, quality protein, or good fats.

5: Opts for a highly processed lunch.
Our typical North American, during his/her lunch break, opts for a small amount of protein (a couple of slices of lunch meat and cheese) between a few slices of processed bread. So again, we're stuck with low protein, low fruit and veggie intake, and very little good fats.

6: Doesn't eat a quality snack in the afternoon.
Our typical North American is fairly inconsistent with his/her mid-afternoon snacks. Also, "snack" usually means more processed carbs and sugar without much in the way of fruits and veggies, quality protein, or good fats.

7: Eats a decent dinner.
Assuming dinner is eaten at home, after work, our typical North American has a decent, nutritionally balanced dinner with a good protein source, good carbohydrates, their first larger fruit and veggie portion of the day, and perhaps even some good fats if they've included olive oil or other sources of monounsaturated or polyunsaturated fats.

8: Doesn't eat a quality snack before bed.
After their evening activities, our typical North American is inconsistent with their pre-bed snacks. These snacks, if they do eat them, usually are the worst of the day, consisting of larger servings of sweets or processed foods.

so, what's wrong with that?

Well, a number of things:

1. Breakfast has been shown to be a critical daily meal. After a catabolic overnight fast, a balanced breakfast helps to regulate blood sugar, helps to regulate energy balance, and helps to control late-day cravings that lead to overfeeding on processed, high fat, and high sugar foods. In both cases above, breakfast is either a very small feeding or is completely non-existent. This needs to change.

2. The bulk of total dietary energy is distributed later in the day. What this means is that hourly energy balance is hugely negative in the morning, and positive in the evening. Studies at Georgia State University demonstrate that hourly energy balance is at least as important as total daily energy balance and should remain as close to neutral as possible throughout each of the 24 hours. This means a better distribution of calories throughout the entire day – not just loading up on a big dinner.

3. In the case of our example above, by lunch our individual is likely underfed in total and often underfed in protein. As discussed above, energy intake needs to be better distributed through the day.

4. Fruit and veggie intake, as well as protein intake, is very low until dinnertime. Just as total calorie distribution should be spread evenly throughout the day, so should macronutrient (protein, carb, fat) and micronutrient intake.

5. With blood amino acid concentrations low from the overnight fast and continually low throughout the early day (especially if the morning has two training sessions), catabolic conditions will predominate in the body, making recovery from and adaptation to exercise difficult without a higher morning and early afternoon protein intake.

6. Throughout the morning and afternoon, vitamin and mineral intake as well as dietary antioxidant intake is quite low, creating a deficit that'll be hard to make up later in the day. A fair number of athletes and recreational exercisers have been shown to be deficient in a host of vitamins and minerals, leading to impairments in nervous system function, metabolic processing, and oxygen delivery/consumption. It's hard to get the requisite amount of vitamins and minerals in only one or two meals. Now, this doesn't mean that folks should start popping multi-vitamins. It means they need to get more fruits and vegetables as well as other micronutrient dense foods with every feeding, not just with one or two feedings per day.

7. Many individuals who don't actively pay attention to their protein intake tend to get too little protein for optimal recovery, preservation of lean body mass, and for the metabolic advantages associated with higher protein intake. Even many of the athletes I regularly work with would benefit from a higher protein intake.
Now, this doesn't mean at the expense of good carbs and good fats. It's in addition to those things. Most folks are getting a good, high protein dinner, but it's difficult to take in enough total protein in only one or two protein rich meals. (Nor is it advisable.)

8. For both the physically active and even the sedentary individuals discussed above, dietary fat intake is usually out of balance in favor of saturated fat. Without actively choosing foods and supplements that contain mono and polyunsaturated fatty acid, fat balance is unfavorable. In our example above, our typical North American isn’t getting enough good fats.

9. With most of the meals above being rich in simple, processed carbs, the hormone insulin isn't well controlled. This means that individuals predisposed to fat gain will have a more difficult time controlling and/or losing body fat, even with higher training volumes.

10. With most of the meals above being rich in simple, low-fiber carbs, not enough dietary fiber is being ingested. This may mean constipation, poor blood sugar regulation, and poor GI health.

11. Our individual above isn't actively taking advantage of the post-exercise improvement in insulin sensitivity and boost in post-exercise protein synthesis by eating carb and amino acid-rich foods right after exercise (assuming they have exercised).

With all of these dietary limitations, it should be clear that although these individuals aren't dying of malnutrition, they're certainly not laying the groundwork for great body composition, health and performance. So let's talk about how to transition from the average diet to a nutritious one.

so how can I improve?

It's easy to right the ship. Follow these seven steps and you'll be well on your way:

Step 1: Improve your workout and post-workout nutrition.
Bring that protein & carb shake to the gym with you, and sip it before and after your workout.

Step 2: Eat a better breakfast every day.
Eat a good breakfast every morning with protein, healthy fats, and ideally some vegetables. Egg-white omelets are great for this. Never skip breakfast.

Step 3: Add good fats to your meals.
Add some extra-virgin olive oil to your salads, and supplement with fish oil.

Step 4: Pack a better lunch.
Forget the sandwich. Make yourself a good, solid meal, complete with lean protein, healthy fats and vegetables. A chicken or tuna salad is as easy to make as a sandwich – and better in every way.

Step 5: Make yourself a great dinner.
Dinner is your chance to eat a delicious, healthy meal. It's generally the only meal most people have plenty of time to cook, so make the best of it. If you need ideas, check out Gourmet Nutrition, the cookbook included with Precision Nutrition.

Step 6: Eat more veggies and fruits.
You don't eat enough vegetables. I know, because I've never met a single person who does. Add more and you'll start noticing the improvements to your health, performance and body composition right away. And don't fear fruit either – it's a healthy, nutritious way to add sweetness to your diet, important since you'll be eliminating nearly all other sugars.

Step 7: Eat good snacks between the three traditional meals.
Forget the standard "three meals a day" edict. Eat three snacks a day, one after each traditional meal. And by snacks, I mean meals that are quick and portable – but still *meals*. They too have to have good protein, good fats, veggies and fruits; things like homemade protein bars and shakes are perfect. And if you have the time, make a real meal! The important thing is that you eat well and eat often: every two to three hours, for a total of six or more meals/snacks per day.

in the end . . .

Whether you're a high level competitive athlete or just a recreational exerciser, eating like the typical North American is bad, bad news. And even if you're exercise habits are excellent, eating the "North American Way" can leave you looking more like the typical North American than you want.

To avoid that mistake, view each meal or snack as an opportunity to improve your body. It's easy: just make sure each meal has a good protein source, a good fat source, and a good amount of fruits and veggies.

5. food preparation strategies

These days, most people know at least the basics of what they should eat and what they should avoid to improve their health, their body composition, and their performance. Yet most people are overweight and/or obese. So what's the problem? Where's the disconnect? Why is it so hard for them to make the change?

Well, unless they really don't want to change, the two biggest impediments to their success are:

1. Their habits, the ingrained set of day-to-day behavior patterns related to food and physical activity, lead to poor body composition, poor performance and poor health. And they don't have a conscious, logical plan for changing them.

2. They aren't ready for the tough times. Things get better, at least temporarily, but then the tough times hit. They "get busy." Eating well becomes inconvenient. No one else supports their decision to make a change. And when these inevitable circumstances come up, they bail.

Habits are more powerful than momentary desire. Habits are more powerful than information. Habits are more powerful than guilt. And only a concerted, conscious effort to override habits will lead to success.

So, in some respects, better nutrition is more about altering lifestyle habits and less about the food. Sure, you've gotta know which foods are good to eat. GI Joe once said that knowing is half the battle. But what about the other half? That other half is logistics. It's planning. It's preparation.

Even if you know what's good for you, if you aren't prepared when it's time to eat, you're doomed. So here are some food preparation strategies to ensure you win the other half of the battle.

strategy #1 — the sunday ritual

No, no, this ritual doesn't include lamb's blood or any special Kool Aid. The Sunday Ritual is performed by setting aside 3 hours or so on Sundays to prepare for the week ahead: to write out your menus, do your grocery shopping, and prepare your meals. And it doesn't have to be Sunday; you can do it any day of the week, as long as you do it regularly.

First, on your designated day, sit down and come up with your meal plan for the week. It should only take a few minutes to lay out 7 different breakfast meals, 7 different lunch meals, 7 different dinner meals, and 2-3 additional snacks for each day. And who says each meal has to be different? I often just plan to eat the same breakfast, the same lunch, etc., for each day, and I'll only switch it up only on a weekly basis. Some like to do it more often, and that's fine. I find it easier to simplify things.

Next, once the meal plan is laid out, add up exactly how much of each food you'll need over the 7 days and go pick those foods up at the grocery store.

Finally, once you've got all those groceries home, it's time to start cooking for the week. Some people choose to prepare all their meals for the week on Sundays (excluding shakes). Others prefer to figure out which meals will be easy to cook just prior to meal time and save them for later, preparing only the meals that will need to be eaten during work hours or during busy times of the day when food prep becomes difficult.

For example, some people can easily prepare breakfast meals and dinner meals on demand by setting aside a few minutes each day for meal preparation. Others have a significant other who can prepare these meals for them. Either way, these meals can probably wait until they are needed. However the lunches, 2-3 daytime snacks, and workout shakes usually present a problem for the unprepared so they should be made in advance. Sunday is a good time for most to do this preparation.

So, if it suits your lifestyle, use the Sunday ritual to get these meals ready for the week. Cook all the meat, chop all the vegetables, measure out all the yogurt and/or cottage cheese, and make dry mixes for each shake. Have them ready and set aside so that you can grab them in the morning and bring them with you regardless of what your day or your boss holds in store for you.

strategy #2 — the breakfast ritual

Rather than preparing all their food for the week on a single day, some people prefer to do a little food preparation each day. That's what the Breakfast Ritual is for.

Using the Breakfast Ritual, simply perform all your cooking for the day each morning. Since you've gotta prepare breakfast anyway, make sure you've got a couple of meals going while breakfast is being prepared. Again, this need not be a huge production. I can prepare all my meals for the day with a max prep time of 30 minutes, and with a little practice, you can too.
Of course, as with the Sunday ritual, think about what your day will hold under both the best conditions (e.g., home from work early and a relaxing evening ahead) and the worst (e.g., unexpected deadline, all-nighter at work, long day at work and soccer practice for the kids, etc.) and act like a boy scout: "Be prepared."

One great strategy for being prepared is to bring both the meals you expect to eat as well as some "backup" options, just in case. So, as discussed earlier, even if you expect to grab lunch at TGI Fridays and have dinner at home, bring with you both a lunch alternative and a dinner alternative, just in case something else comes up. If you don't need the meals, that's fine — just eat them another day. But if you do need them, you can chow down without skipping a meal or choosing a poor alternative.

Here's another idea for you. If you don't want to bring several full meals that you're unlikely to eat, another great option is to bring some homemade snacks with you. Things like homemade protein/energy bars are a fantastic alternative to the mostly crappy, store bought, sugar laden, artificial ingredient containin', protein bars – or worse, candy and junk food. The Gourmet Nutrition cookbook in Precision Nutrition contains plenty of snack recipes.

strategy #3 — have others cook for you

If you love the idea of having 5-6 ready made meals always available yet can't see yourself using the Sunday or the Breakfast Rituals above or buying all the Tupperware, there are a number of options at your disposal.

First, you can hire commercial food preparation services to do all the cooking for you. If you're anywhere near a metropolitan area, you'll be able to find dozens to choose from. The two biggies nowadays are Atkins At Home (Atkins Diet) and Zone Nation (The Zone Diet). The Atkins At Home company delivers 3 meals and 1 snack to your door by 6 AM each morning. The cost of this is between $35 and $40 per day. Alternatively, the Zone Nation company delivers 3 meals and 2 snacks to your door by 6 AM each morning for the cost of $35-40 per day, just like the Atkins company. I hear good things about both services.

Now, if you're not interested in supporting the Atkins or Zone programs, there are many smaller companies who can assist you with your meal preparation needs. For example, when I lived in Miami Beach I found a local woman who provided this very service for $5 per meal. Every day for lunch she brought me an 8oz chicken or turkey breast, a baked potato or serving of rice, and a large serving of steamed veggies. Other days, I'd have her bring me 2-3 meals just like this.

Another possibility is to hire a personal chef. I know that may sound absurd for us non-royalty types, but it's actually become a viable option. A personal chef generally comes into your kitchen for a few hours once every week or two weeks. The chef brings all the food, and all the tools necessary to cook it, and prepares a week's worth of healthy meals for you, all to your tastes and specifications. They'll label everything and put it neatly in your fridge, clean up, and be gone. All you have to do is reheat the meals and eat them. The cost is quite reasonable, and if you're extremely busy it's certainly worth trying.

Here's another tip. Pick four restaurants in your immediate area (two fast food places, one medium-priced sit-down restaurant, and one higher-priced, fancier restaurant) that prepare meals in a way that conforms to your nutritional plan and have them prepare the food for you when necessary. Of course, you'll have to do a little research on your potential eateries by collecting hard copies of their menus or visiting their web sites (if they're online).

If you're looking for a few examples, here ya go. Dave Thomas' Wendy's makes a couple of tasty chicken salads and a chili that you can eat when on the go. Even McDonalds is offering healthier meal selections — I'm lovin' it.

Choose healthier fast food meals that conform to your meal plan when you don't have much time or much money for a meal and choose a medium-priced restaurant like TGI Fridays (US) or Kelsey's (Canada) for a better quality menu to provide you with a solid daily lunch. TGI Fridays, for example, has a great list of Atkins-friendly selections.

Finally, choose higher priced restaurants if it's time for a power lunch to impress colleagues. Since most people don't really know where they want to go eat anyway, if you get roped into a business lunch, you can be the one to make the definitive decision as to where the group is going to eat. Your decisiveness will win you big points with colleagues and you'll also be able to control your eating habits.

Finally, if you don't have the resources to pay others to cook for you, consider the fact that if you use the first two strategies to effectively build a lean, muscular body, you might just be able to convince attractive members of the opposite sex to take over for you. However, getting them to drop the meals off at your place by 6 AM every morning is a trick I'll leave for another time.

In the end, whether you choose to regularly prepare your own meals by using the Rituals described above or have others prepare your meals for you, circumstances will arise in which you'll have to "cross over" and use a different strategy than you usually use. It never ceases to amaze me how much time those interested in health and fitness spend seeking out "the perfect plan" and how little time they spend figuring out what they'll do when life's circumstances prevent them from following it.

Follow the guidelines in this chapter and you'll be able to display the adaptability necessary to move from nutritional novice to "seasoned" nutritional veteran.

food support systems

In order to make the Sunday Ritual and the Breakfast Ritual work, it's important to pick up a few items — nutritional support systems, if you will. Here's what we recommend picking up before you start using either of the two Rituals:

A good countertop grill. Since you'll most likely need to cook relatively large batches of lean protein, it's important to have a quick way of doing this. If you've got a great backyard grill that you can use year-round that's great. If not, pick up a George Foreman or Hamilton Beach grill and you'll be all set. Look for one with a timer and removable grill plates for easy cleanup.

A good cooler in which to store and carry your meals for the day. Coleman makes a few good ones. Before buying one, however, make sure there's enough room to carry a few meals and a few shaker bottles. There are also coolers available that look like briefcases and small suitcases, if that would suit you better.

5 small Tupperware-type containers. These containers will be for storing and transporting your daily meals. Make sure they are small enough to fit into your cooler but large enough to accommodate a full meal. Your choice of glass or plastic is up to you.

5 large Tupperware-type containers. These containers are for storing larger quantities of food. For instance, if you chop your veggies for the week or cook all your chicken breasts for the week, store them in one of these. Again, your choice of glass or plastic is up to you.

3 Rubbermaid Chuggable drink containers, 1L size. These containers are for your liquid supplements. Be sure to choose the blue top variety as these are far and away the best drink containers out there. Most others leak.

When choosing to prep your own food and carry meals with you, it's important to find the right food support systems to facilitate your success. This list will give you a good start.

6. eating on the road: travel strategies

One of the biggest challenges my clients face is sticking to their nutritional plan while on the road. So here is a list of my top 10 favorite strategies for maintaining your nutritional discipline when traveling.

Strategy #1 — Location, Location, Location
If you're planning to take to the road for sport or for business, your first item of business is this—ensure that everything you need is in close proximity to where you'll be working or playing. Location is key.

So let's say you're going to a week long conference at the Indiana Convention Centre and RCA Dome. Well first, get on the internet and find all the hotels nearest the Convention Centre. Next, give these hotels a call to find out where the nearest grocery stores, restaurants and gyms are located. Pick the hotel with the best combination of nearby resources. This way, even if you don't get a rental car, you can easily walk or cab to your fitness and nutritional havens.

Skip this strategy and you're giving yourself big excuses to skip workouts, miss meals, and make poor food selections while on the road.

Strategy #2 — The Penthouse Suite?
While you don't necessarily have to stay at a 5 star hotel or choose the penthouse suite, one great strategy for you road warriors is to choose a hotel chain that offers rooms/suites with kitchens or kitchenettes. If you know a nice kitchen set-up is waiting for you, you won't have much difficulty sticking to your meal plan. Just have your cabbie drop you at the grocery store on your way from the airport. Once you get to your hotel room you can rest assured that you'll be able to eat as well as when you're at home.

If you're looking for a good hotel chain, Marriott Residence Inns are a nice choice. You can find other hotels that meet your needs as well. I recommend Marriott because my clients have always had great experiences with them.

Now, if you absolutely can't find or afford a hotel that has a kitchen or kitchenette, make sure that your hotel room has, at the very least, a refrigerator (most do). As long as you've got a refrigerator, you can stock your hotel room with good snacks. My athletes and I pick up fresh fruits and vegetables, bottled water, cottage cheese, plain yogurt, regular cheese, natural peanut butter, whole grain breads and mixed nuts on our way into town and snack on these during our weeks on the road.

Strategy #3 — Can You Ship Egg Whites Next Day?
Here's a great strategy I picked up former client and current good friend, Austin. This guy is a bona fide road warrior himself and has a ton of great strategies for eating on the road. Instead of going shopping when he gets to town, Austin actually ships his food and supplements via UPS or Fed Ex.

He gets a medium sized cold shipping box, loads it up with ice, protein powders, fruits and veggies, mixed nuts, legumes, meat, eggs, cottage cheese, yogurt, cooking pans, utensils, shaker bottles and non-stick cooking spray and ships it to his hotel before leaving home.

By doing this, Austin doesn't need to worry about where grocery stores and restaurants are located. As soon as he arrives in town, he's good to go—nutritionally, at least. All he needs to find is a gym and he's set. Again, although the shipping option may seem a bit pricey, you'll end up saving money on restaurants and the price may work out in the end.

Strategy #4 — The Big Cooler
Here's another strategy I picked up from my buddy Austin that helps ya' transport both luggage and groceries simultaneously for shorter trips that might last only a day or two.

Pick up a big cooler with an extendible handle and wheels (much like the wheeled luggage so popular nowadays), put a little partition down the middle, and you've got a ready made combined cooler/suitcase that can act as a carry-on. Put your cottage cheese on one side and your drawers on the other!

Strategy #5 — What's On The Menu?
If you decide to have others prepare your meals for you when on the road, make sure you use Strategy #1 above to find out where the restaurants nearest your hotel are located. Next, visit them on the web for downloadable menus. If they don't have downloadable menus, call them and ask them to send a menu over to your hotel for when you arrive.

By having the restaurant menus, you'll know exactly what types of food you can have access to at all times. Also, when dining with a group, you'll be able to suggest places that conform to your nutritional requirements.

Strategy #6 — You Don't Have To Order From The Menu
Here's a hot tip that most people fail to realize. Most restaurants can easily provide a meal custom to your specifications even if it's not on the menu. So don't become a slave to the menu offerings. Ordering a specific number from the menu is almost always a recipe for disaster unless the menu is designed for "healthy eating" or whatever the restaurant is calling it. Most normal dishes have too much fat and too many processed carbohydrates for most body-conscious individuals.

Instead of ordering an item directly from the menu, either ask for an item that you like prepared without the sauces or high carbohydrate portions or simply ask for a portion of protein and a few servings of vegetables and fruit on the side. Remember, you're paying top dollar for your meal and you're about to tip your waitress. So don't feel bad asking them to meet your needs. Uh, nutritionally, that is.

Strategy #7 —Protein and Energy Supplements
Using some combination of the strategies above, you should be able to ensure that good meal options are always around the corner. But sometimes when you're on the road it's impossible to slip back to your room or to get to a restaurant.

For times like this, you'll need to consider a few supplement options. Typically, when at home I only use 1-2 scoops of protein powder per day, but when on the road, I may use up to 6 scoops if necessary. Protein choices are both hard to come by and more expensive than other options. So increasing your dietary energy with protein powders is a good fall-back option.

Strategy #8 — Powdered Veggies
Normally, at home, I get about 10 servings of fruits and veggies per day. But when I'm on the road that amount is usually reduced to somewhere around 2-4 servings unless I'm very conscious of my intake. A great way to make up for this reduction in my micronutrient intake is to use a powdered vegetable supplement such as Greens+.

If I'm on the road, these products help make up for the deficit I may be experiencing. An added bonus is that I seem to better digest my protein supplements when adding some greens+ to my protein shakes.

Strategy #9 — Homemade Bars
If you're not into drinking numerous protein shakes per day, another great option is to bring some homemade snacks with you. In fact, homemade protein/energy bars are a fantastic alternative to the mostly crappy, store bought, sugar laden, artificial ingredient containin', protein bars.

Strategy #10 — Sleep Pills
Jet lag, time zone changes, unfamiliar sleeping environments, poor nutrition, altered exercise habits, and the stress associated with big business meetings or competitions can all really impair your ability to get adequate rest when on the road.

Following the previous nine steps will help you take care of your nutritional intake. Making sure not to skip workouts will also help. So will the addition of a ZMA supplement. While research hasn't provided direct evidence to support a relationship between zinc and/or magnesium status and sleep quality, most ZMA users find dramatically improved sleep quality when taking this supplement. Three capsules before bed should do the trick.

If you're going to be successful in maintaining a good nutritional plan, no matter what the circumstances, you're going to have to plan for the unplanned and display adaptability to all circumstances. The guidelines included in this article should help get you thinking about how to become a successful road warrior.

7. revving your metabolism

I remember the day I got the bad news. I was 20 years old and I was in the middle of a nearly impossible squat session. Between sets, while trying to catch my breath, an "older" personal trainer (he was probably in his thirties) came over and offered some "advice"—unsolicited, of course.

"Ya know," he said, "I used to look like you. But just you wait. After 25, the metabolism slows down, and it's all downhill from there, buddy. You'd better enjoy it while it lasts."

I wasn't sure what to make of this guy. After all, he didn't look that great. Sure, he was a trainer and he did look better than most folks his age; but just barely. And he had a lot less muscle and a lot more fat than I did.

But the critical question was this - was he right? Did the metabolism come to a grinding halt after age 25? Was I doomed to lose my prized physique? Worse yet, was I destined to look like him? I had to find out. After all, if middle age spread was an inevitable consequence of aging, why bother?

So I asked around. I spoke with personal trainers, gym owners, and nutritionists, who all confirmed what I had heard. I spoke with some instructors at my local community college. They said the same, although with less certainty since at that time not much research had been done about the matter.

I looked around, studying the physiques of people I ran into at the gym, grocery store, mall, and elsewhere. The evidence was all around me. Younger people were leaner and seemingly in possession of faster metabolic rates than older individuals.

So, in my 20-year-old mind, the message seemed clear: I'd better make the most of my youthful body and metabolism because I was destined to lose it.

Fortunately, I was dead wrong!

what's really going on?

Now it's over a decade later, and I've earned a PhD with a specialization in Exercise and Nutritional Biochemistry. I've published over 200 articles and 5 books. And I've worked with athletes at every level of sport. And at this stage in my life I'm also happy to report that the metabolism does not have to slow down with age – for any of us (assuming we're healthy and free of disease).

Yes, it's true that when we're young, your body finds a way to balance energy expenditure and energy intake. It's true that, as we age, we have a much more difficult time maintaining what we've got. And it's true that studies have shown that 1/3 of all North American adults are at least 20 percent over their "ideal weights."

These truths, however, don't seal our fates. Just because some folks spend their lives engaged in a frustrating battle of eating less only to gain more, that doesn't mean we have to. Personally, I've skirted around those so-called truths. I eat just as much food—if not more—than I did in my twenties, yet I have no more body fat to show for it.

And I'm no anomaly. Over the years, I've trained countless clients, ranging in age from 25 to 65. It didn't matter how high their body fat percentages, how slow their metabolisms, or how scrawny their muscle mass when they met me, they were all able to turn things around – without drugs – as long as they did what it took to boost their metabolic rates! But don't worry; this article isn't just about my experience.

Scientists have spent quite a bit of time sorting out what happens to the metabolism with age. And what they've noticed is that while the metabolism does seem to slow with age, it only slows if you do nothing about it. If you eat properly, exercise the right way, and take the right supplements, you can maintain your metabolic rate over your entire life span! Even if you're 40 or older and things have already slowed down, you can reverse the trend and regain the metabolism of your youth. In fact, you can create a metabolism that's even faster than the one of your twenties!

Is it easy? No. Does it take hard work and dedication? Yes. But it can be done. I'm living proof. So are my clients, and so are the thousands of people who have participated in hundreds of studies conducted in the United States and around the world.

age and metabolism

So why does maintaining a healthy weight get tougher as we age? Well, although most people eat less as they age—to compensate for moving less at their desk jobs—their activity levels generally decrease more than their energy intakes. And with less activity than food, fat gain is inevitable – even if they don't "feel" like they're overeating!

These decreasing activity levels result in yet another problem: muscle loss. Researchers have determined that, starting between the ages of 25 and 30, most people lose roughly 5 to 10 pounds of lean body mass during each decade of life. As muscle is a metabolically active tissue. That means that in addition to burning calories to move your skeleton through space, it also burns calories to maintain itself. So age-related muscle loss can cripple your metabolism. The average person, who becomes less active and, consequently, loses muscle, experiences a 20 to 25 percent reduction in 24-hour metabolism (measured as the amount of energy your body burns in 24 hours) by age 65. This adds up to a daily metabolic drop of more than 500 calories from age 25 to 65.

So it's no wonder folks are gaining weight! It's tough to cut 500 calories off your daily menu to compensate for that metabolic drop, so most people end up packing on the fat. Of course, again, this scenario holds true only if you do nothing to prevent it. Why do most people lose muscle as they age? Because they don't use it. When it comes to the human body, what you don't use, you lose, and muscle is no exception.

Studies of people older than age 60 show that you can—at any age—reverse muscle loss and regain the metabolism of your youth. In fact, according to research, individuals who—through exercise and smart eating—maintain their lean mass (muscle, bone, and other non-fat tissue) as they age experience only a 0.36 percent drop in metabolism per decade compared to the 5 to 7 percent per decade drop that most adults experience. This is a huge difference! Add a few key supplements to the mix and you can even prevent that 0.36 percent drop, and possibly even rev your metabolism higher than it was during your youth!

So metabolic slowdown is not inevitable. You can prevent it. And you can reverse it using a three-pronged approach including eating, exercising, and supplementing the right way to get a series of all-natural "metabolic advantages."

the metabolism advantages

The following tips are essential to maintaining a fast, youthful metabolism:

1. Build the muscle needed to speed up your resting metabolism, all day and all night. A gain of 5 to 10 pounds of lean mass muscle will rev up your resting metabolism—the number of calories your body burns to maintain life—by roughly 100 calories – each and every day.

2. Maximize something called the "afterburn." Through targeted strength training and energy system work (a specific type of interval training), you can increase the number of calories you burn during your workouts (about 300 to 600 calories per day depending on your body size and workout duration). However, assuming you integrate these high intensity efforts, you can also blow through another 100 to 200 calories per day – a post-exercise energy burst that eats up calories even when you're sitting on your butt.

3. Increase the number of calories your body burns as it digests foods. Prioritizing metabolically costly proteins, metabolism-boosting fats, antioxidant-rich fruits and veggies, and the right carbs at the right times (nutrient timing), can boost your metabolic rate by another 100 to 200 calories per day.

4. Encourage your body to waste calories. The right combination of food choices and supplements can turn you in to a much less efficient calorie burner. Much like a car in need of a tune up, your body will consume more fuel than it needs to operate, wasting away the excess as heat. Unlike with your car, however, when it comes to your metabolism, inefficiency is a good thing. It will coax your body into burning more calories – and more fat – for fuel.

5. Boost the number of calories your body burns through movement. Thanks to that desk job, family commitments, and great lineup of must-see TV, most of us move less at ages 30, 40, and beyond than we did during our teens and twenties. By training at least 5 hours each week, you can increase your calorie burning by about 300 to 600 calories per day.

All told, with the right combination of training, nutrition, and supplementation, you can expect to increase your daily calorie burn by between 40 and 60 percent within just 8 weeks. In other words, a guy who currently burns 2,500 calories a day would rev up his metabolism to a 3,400 to 4,000 daily calorie burn! That's enough of a boost for you to see a 10-to-15-pound drop in body fat during those 8 weeks above. And for those at a beginner/intermediate level of training, you can expect muscle gain too. Muscle gain and fat loss simultaneously? Yep, it happens all the time. Time to revisit my examples above.

Even more important, when you get these things right, you will simultaneously improve your health. In addition to speeding your metabolism, building muscle, and shedding fat, you can also expect to lower your blood cholesterol, blood pressure, and blood sugar. So not only can you live look better, you can live longer. So, in the end, I'm here to tell you that a large-scale metabolic decline isn't inevitable as we age.

If you're young and haven't seen the affects of father time, that's excellent. But that doesn't mean you wont! Make sure that you use a combination of smart eating, training and supplementation to keep that metabolism reving for life.

And if you're older and your current lifestyle has negatively impacted your body, know that it's not too late. Turn things around now and you can reverse the damage that's been done. I've seen it happen time and time again.

apppendix a: what's in my fridge

Long ago, when I first began to pay serious attention to my training and nutrition, I learned of a general principle that has served me well and has since become the cornerstone of my body composition success:

If a food is in your possession or located in your residence, you will eventually eat it.

Simply put, if you wish to be healthy and lean, you must remove all foods not conducive to those goals from said residence and replace them with a variety of better, healthier choices.

If you know someone who is not healthy and lean, and yet whose house is stocked only with optimal food choices, look under the bed.

The bottom line is that you must stock your house with all the ammo you need to fight the battle of the bulge. My body fat ranges from about 5% to about 8% throughout the year (without the use of thermogenics/fat burners) and the only way I'm able to maintain that level of leanness is by removing all temptation from my home, where I spend most of my time.

For years I've advised my clients and athletes to do the same. Now I bring the message to you. Your willpower and discipline will be tested enough at social events, at lunch meetings, and as you pass the six Krispy Kreme locations on the commute home from work. If you're to have any chance of success, you need a safe home base.

With that in mind, I'm going to give you a peak into my armory . . . er, kitchen. In this chapter, I'll open my stainless steel fridge to show you what and what not to stock. In doing so I hope to demonstrate that there are plenty of options available to the trainee interested in optimal health and body composition. Of course, this is not intended to be a comprehensive list in any way; rather, it's a snapshot of the actual contents of my favorite appliance, and as such should serve as a practical example of the nutrition theory I expound elsewhere in Precision Nutrition.

meat, poultry and fish

- ❑ Extra Lean Ground Sirloin (3 x 1lb packages)
- ❑ Boneless Chicken Breasts (2 x 1lb packages)
- ❑ Mild Turkey Sausage (2 x 500g packages)
- ❑ Ostrich (2 lbs)
- ❑ Bison / Buffalo (2 lbs)
- ❑ Elk (2 lbs)
- ❑ Salmon (2 large filets)

eggs

- ❑ Omega-3 Eggs (2 dozen)
- ❑ Egg Whites (12 x 250mL cartons)

cheese

- ❑ Aged White Cheddar (4-8oz)
- ❑ Baby Swiss (4-8oz)
- ❑ Havarti (4-8oz)
- ❑ Parmiggiano-Reggiano (Parmesan; 4-8oz)
- ❑ Feta Cheese (4-8oz)

fruit

- ❑ Apples (12)
- ❑ Tangerines (6)
- ❑ Red Grapes (large bunch)
- ❑ Pineapple (2 cut and cored fresh pineapples)
- ❑ Strawberries (2 cartons)
- ❑ Blueberries (2 cartons)

vegetables

- ❑ Spinach (4 bags, 6oz each)
- ❑ Red, Yellow, and Green Peppers (8)
- ❑ Cucumbers (2)
- ❑ Tomatoes (2)

- Baby Carrots (2 large bags, 2lbs each)

sauces and condiments

- Pesto (one jar of basil pesto, one jar of sun-dried tomato pesto)
- Peanut Satay Sauce (1 bottle)
- Curry Sauce (1 bottle)
- Tomato Pasta Sauce (2 large jars)
- Organic Apple Cider Vinegar (1 bottle)
- Raspberry Vinegar (1 bottle)
- Red Wine Vinegar (1 bottle)
- Balsamic Vinegar (1 bottle)
- Flax Oil (1 bottle)
- Garlic-Chili Flax Oil (1 bottle)

beverages

- Water (1 large Brita filtered jug)

so, what isn't in my fridge?

- Soft drinks, fruit juices and milk
- High fat and sugar salad dressings and other condiments
- Processed breads
- Highly processed, pre-packaged foods
- Rotting leftovers from Thanksgiving dinner

In the end, this list isn't designed to share the why – just the what – as in what it takes to build a great body. I can say with confidence that if your fridge doesn't contain many or most of the things I have in mine, or if it contains many things that mine doesn't, you'll have a difficult time maintaining a lean and healthy body. If it contains none of what I have in mine, tip your fridge over, dump the contents and begin anew.

appendix b: what's in my cupboard

Hey, it's easy to talk the nutritional talk -- the question is, do you walk the nutritional walk?

By offering you a glimpse at the contents of my kitchen, I hope to give you the opportunity to check your own practical nutrition habits against my own, and see how nutrition theory is put into practice. So let's go through a tour of my cupboard, covering both pantry items and supplements. By the end of this chapter, you should see that good nutrition practice involves limits and discipline, but not the austerity that most people assume it does.

pantry items

- Rolled Oats (3lb bag)
- Mixed Nuts (2lb bag)
- Mixed Beans (1lb bag)
- Dried Fruit Mix (no added sugar) (1lb bag)
- Legumes (1 bag lentils, 1 bag mixed beans)
- Quinoa (1lb bags)
- Whole Wheat Pasta (2 x 2lb bags)
- Extra Virgin Olive Oil (1 bottle)
- Canned Tomatoes (3 cans)
- Canned Beans (3 cans)
- Flax Seeds (½lb bag)
- Miscellaneous Grains (oat bran, wheat bran, oat flour)
- Green Tea (2 boxes of 20 packets each)

spices

Salt, pepper, fresh garlic, basil, oregano, chili powder, onion powder, and cinnamon are a good start. Seasoning mixes are also handy and take the guesswork out of flavoring. For example, right now I have Italian, Indian, Mexican, and Thai mixes in my cupboard.

Note: the pantry is where the average kitchen goes horribly awry. Cookies, crackers, potato chips, baking supplies, and other hydrogenated and over-sweetened junk, all perched high above on a shelf, ready to snipe away at your hard-earned health and body composition.

If this is your kitchen, carefully position a large trash receptacle directly beneath said shelf. With a smooth sweeping motion, use your forearm to plow these enemies into the abyss below.

The items above are most likely the only ones you need since most of your nutrition should be coming from fresh, perishable foods – those listed in Appendix A, discussing what's in my fridge.

supplements

- ❑ Biotest Metabolic Drive protein supplement (2 x 2lb containers)
- ❑ Biotest Surge Post-Workout Drink workout drink (2 x 1lb containers)
- ❑ Prolab Creatine (300g container)
- ❑ Concentrated Enteric-Coated Fish Oil (3 x 50 capsule bottles)
- ❑ Genuine Health Greens+ (2lb container)
- ❑ Biotest ZMA zinc & magnesium supplement (90 capsule bottle)

Supplementation should be determined by your training goals and your resources, both time and money. Other than your post-workout drinks, fish oil caps, the occasional scoop of protein or a MRP, and perhaps some necessary micronutrients, no supplement should be taken year-round. And while it should go without saying that supplements should supplement and not replace a solid training and nutrition program, this is one of the most common mistakes I see, even in intermediate trainees. This is an example of my list based on my goals.

In the end, if you wish to expedite the process of reaching your goals, you'll do the following:

1. Perform an inventory of all the food in your house, excluding nothing. Everything goes on the list, even if you didn't buy it and don't intend to eat it. If it's in the house, either you, someone you love, or someone you marginally tolerate will eventually eat it, so everything is fair game.

2. Compare your list to mine (both the items on this list and the items in my fridge article).

3. See how close you've come. If you're close (on both the items to have and the items not to have), keep up the great work. If not, round up all the offending grub, and give it a warm send off as it pulls away in the back of a garbage truck.

For those who think it would be more charitable to drop it all off at a food bank, I have news for you: the poor don't want your half-empty box of Ho-Ho's either. If you really want to help, make a donation, drop off some good food, or volunteer your time.

Populate your kitchen with the foods above, and you will have built the foundation for nutritional success.

about dr. john berardi

Dr. John M. Berardi is the president of Science Link, Inc., a company devoted to translating exercise and nutrition research into real-world results. Science Link currently provides nutrition and human performance consulting to sports teams at the professional, collegiate and Olympic levels, as well as individual consulting to athletes of all levels, from elite juniors right up to multiple gold medalists. Dr. Berardi and his team also offer fully supported distance-based body transformation coaching to men and women from all walks of life.

Dr. Berardi has written and lectured around the world on nutrition-related topics. He has authored or co-authored five books and over two hundred articles in the popular press for magazines like Men's Health, Men's Fitness, Women's Health, Muscle & Fitness, Testosterone and more, and has been quoted in both the New York Times and TIME Magazine.

Dr. Berardi received his doctoral degree in exercise science from the University of Western Ontario, with a specialization in the areas of exercise biology and nutrient biochemistry. He is currently an adjunct assistant professor of Exercise Science at the University of Texas.

To find out more about Dr. Berardi, and to learn more about nutrition and human performance, visit www.precisionnutrition.com.

about precision nutrition

When elite training facilities, national Olympic teams and pro sports teams need nutrition consulting, they turn to Precision Nutrition.

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- A systematic approach to achieving the entire spectrum of goals, from female fat loss to male muscle gain – learn how to get to your chosen goal as fast as possible, and stay there permanently.
- Lifetime access to the private, online Precision Nutrition Member Forum – get support when you need it, 24/7, from PN coaches and thousands of fellow members from across the globe.

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