THE BEST DETOX OF ALL TIME, REJUVENZA.

Todd Weber January 28, 2019

So, I was out sick with the flu all last week and in-between my 3:00am Siberian freezing sessions and daytime shirtless Sahara sweating sessions, I was too incapacitated to do any real work. But I did do a lot of thinking. And one of the random thoughts that popped into my mind that I thought I’d share with you is this: do you know what the best detox diet is of all time?

The Stomach Flu

I know, I know, let the hate mail and comments section below fill up with verbal abuse, but hear me out. When you think about it, outside of the jokes that health professionals like to make about how you have a liver and two kidneys to detoxify your body, there is no other programmed bodily response/mechanism that will clean out your body any better.

“There is no other programmed bodily response/mechanism that will clean your body out any better than its response to the stomach flu”

All flus are bad but the people that get the worst of the flu are those that vomit AND have diarrhea, the proverbial, “it’s coming out of both ends”. Vomiting cleans out the stomach and proximal (first) part of the small intestine, while diarrhea will help clean out the remainder of the small intestine, large intestine, and rectum.

At the same time, you’re not going to consume any food or drink for at least 24 - 36 hours and when you do start back, it’s usually a very elemental, chicken soup type diet. Furthermore, there’s likely never a time where your body and its appetite feel more “reset”. You really do feel like you’re starting over with eating.

Now, with all that being said, no one in their right state of mind would ever consider voluntarily giving themselves the flu! Not even Dr. Oz and Gwyneth Paltrow’s lovechild would consider doing something so radical.......or would they (cough, clear throat, ah hum... placenta eating).

In our extremist health and wellness culture it is fascinating to think about where the lines are drawn for being extreme and then being too extreme. Eating your placenta, oh yeah, that’s cool don’t worry about it, but giving yourself the stomach flu? Are you crazy, who in their right mind would do such a thing?

And yet, I don’t really see that much difference between these two examples. If I had millions of marketing dollars and celebrity status I bet I could convince more than a few nit wits out there to voluntarily give themselves the stomach flu. Only we couldn’t call it the stomach flu, we’d have to rebrand it, giving it some special name like REJUVENZA (rejuvenate and influenza).
INTERMITTENT FASTING, THE NEXT IN A LONG LIST OF FADS OR ACTUALLY USEFUL?

Todd Weber March 7, 2018

Article Highlights:

- Recent interest in the Paleo diet has sparked public interest in eating based upon hunter-gatherer evolution.
- Interest in the Paleo diet has led to the adoption of the more extreme, Ketogenic Diet.
- In turn, the Ketogenic diet renewed the public’s interest in fasting (intermittent fasting, alternate-day fasting, and time restricted feeding).
- We encourage some (but not all) principles of the Paleo diet, some forms of intermittent fasting, and time-restricted feeding be adopted by modern day man.
- In our opinion, the Ketogenic diet and Alternate Day Fasting (ADF) have no place in public health; we believe these diets are passing fads.
- In this review we address the things you should consider before trying intermittent fasting (IF) or time-restricted feeding (TRF).
- We explain why, more than ever, there is a need for the modern-day consumer to create his/her own “Nutrition Rules” to build sustainable dietary patterns.

Introduction: Fasting, defined as prolonged periods of abstaining from eating or drinking anything containing calories has been practiced for millennia to cleanse the mind, body, and spirit. Therapeutic fasting for weeks and months at a time became a popular treatment of obesity in the 1950’s and 60’s before falling out of favor. In recent years, fasting has regained public interest in the form of intermittent fasting (IF) and time-restricted feeding (TRF). Fasting comes in many forms (see Table 1) but one of the more popular modern-day applications of it is alternate-day fasting (ADF).
In ADF, one alternates between eating one day and fasting the next, thereby eating 2 days-worth of calories in one day and eating zero calories the other. In time-restricted feeding, one consumes all of his/her calories within a pre-determined time period. For example, in 10-hour TRF if your first meal comes at 8am, you are allowed to eat what you want, when you want until a set time point, let’s say 6pm. Thereafter, you’re not allowed to eat or drink anything containing calories. There may be some health benefits to IF and TRF; however, before we get into those we would like to explain how IF and TRF entered the mainstream as a way of eating. In short, IF and TRF didn’t just spring up out of nowhere. In our opinion, they are the offspring of the Paleo diet.

The Rise of the Paleo Diet: Unless you’ve been living under a rock (pardon our pun), you’ve likely heard something about the Paleo diet. The Paleo diet first entered the medical literature in 1985 as part of Eaton & Konner’s New England Journal of Medicine article, *Paleolithic Nutrition: A Consideration of Its Nature and Current Implications*. The Paleo diet laid dormant in the medical field for ~15 years until the early 2000s when Colorado State professor, Loren Cordain published a series of articles on the Paleolithic way of eating. It wasn't until recently (the past five years or so) that the Paleo diet truly entered mainstream America.

In short, the Paleo diet is based upon what our ancestors during the Paleolithic era (2 million years ago to 10,000 years ago) had access to. This time period was long before farming, agriculture, or caring for livestock. Our hunter-gatherer ancestors ate wild game and scavenged for berries, nuts, and seeds. There was no industrialized food production or dairy products and there certainly weren’t any (farmed) grains.

The modern-day Paleo diet and its advocates do a fantastic job of pointing out how crazy, how insane, our food environment has become. The amount of ultra-processed, refined carbohydrate in today’s food environment is just staggering and one of the Paleo diet’s principles is to cut these out completely. This, for the most part, is a good thing.

However, with that being said, we are not fans of the Paleo diet as it tends to be overly restrictive. Reducing carbohydrate consumption in our modern-day world is probably a good thing for most people (more on this later) but completely cutting out all whole grain products, beans, and dairy is, pardon us, but just plain stupid. For this reason, we love, love, love, when people say that they eat based on Paleo principles or Paleo(ish) indicating that they reserve the right to some flexibility in their diets but in general follow the Paleo principles.

Finally, it must be noted that a) eating for health and b) eating for weight loss aren’t necessarily the same thing. When one becomes so wrapped up into thinking about what our Paleolithic ancestors used to eat, we lose sight of what, for many is our primary goal: to lose weight. Weight loss is about energy balance. Less calories in than calories out = weight loss. Although nice, it is not absolutely necessary to eat healthy to lose weight. No matter how much window dressing you put on a diet, the reason it works is because it helps you induce a negative energy balance (see Table 2).

**Table 1. Definitions of Different Types of Eating Patterns**  Reference: Anton, SD; 2018 Obesity
Table 2. How Named Diets Work for Weight Loss. Despite their differences in name and appearance, any weight loss diet that actually works does so by creating a caloric deficit (negative energy balance).

Paleo’s Not Extreme Enough: Ketogenic Here We Come: As crazy as it is to hear, for many people the Paleo diet just wasn’t extreme enough...so they moved on to the ketogenic diet. In layman’s terms, the ketogenic diet is like the most extreme version of the Atkins diet on steroids (high fat, near zero carbs). The ketogenic diet doesn’t just restrict carbohydrate (again, the grain haters), it eliminates them! A true ketogenic diet also greatly reduces protein intake because protein (gluconeogenic amino acids) can be broken down to produce glucose, which the ketogenic diet seeks to severely limit through eliminating dietary carbohydrates (side note of importance: even if you haven’t eaten food containing calories for several weeks, your body will fight to maintain blood glucose; without blood glucose, you will die).

Table 3. There are Two Ways of Achieving Ketosis: eliminating carbohydrate from the diet or fasting. Each takes between 12-36 hours depending on your previous day’s diet and exercise.

By eliminating carbohydrates and/or fasting for prolonged periods of time, the body can enter a state of ketosis. Ketones (ketone bodies) are produced when there isn’t sufficient carbohydrate available to help the body burn fat. You can think of ketosis as

Evolutionary Underpinnings of the Hunter-Gatherer Diet: So why in the world would someone look to eliminate carbohydrate from their diets? Answer: in an attempt to mimic hunter-gatherer metabolism of the past. If we go back to the story of the hunter-gatherer, most people know that there were times of feasting when food was plentiful and fasting when food was scarce. Alternating between feasting (the fed condition) and fasting (fasting condition) leads the body’s metabolism to switch between glucose metabolism in the fed condition and fat metabolism in the fasted condition. Throughout our evolutionary past it was highly likely that our body’s metabolism had to remain highly flexible, that is, our metabolisms switched back and forth between glucose as our preferred fuel and fat as our preferred fuel, multiple times/day and hundreds, if not thousands of times per year.
Figure 1. Metabolic Flexibility. The body’s normal metabolism is highly flexible and responsive to carbohydrate intake. For the first two to three hours immediately after consuming carbohydrate, the body primarily burns glucose as a fuel. Thereafter the body switches to its backup fuel, fat, until another meal containing carbohydrate is consumed. Your body’s metabolism switches/flexes over to carbohydrate/glucose once again as carbs/glucose become the preferred fuel source. Only in starvation (2+ days without eating or total carbohydrate restriction (Table 3) does the body enter ketosis.

On the other hand, modern man never stops eating, therefore, modern day man never switches between glucose as a preferred fuel source or fat as a preferred fuel source (Figure 1). Forcing the body to switch between fuel sources seems to be good for metabolic health. Allowing the body to predominately use glucose and never have to switch between fuel sources is bad for metabolic health (heart disease, diabetes, metabolic syndrome, etc.).

As typical in our modern society of extremes, knowing that eating too many carbohydrates and/or eating too often can lead to energy excess and metabolic disease, people have swung the pendulum to the complete other side of the equation. This is completely unnecessary and carries no special “metabolic” benefit, but hey, that’s our society.

Before we move on, and in the interest of being balanced we would also like to state that it is possible to burn predominately carbohydrate (>70% calories) or predominately fat (>70% of calories) with limited metabolic switching and remain healthy. In his 2002, European Journal of Clinical Nutrition paper, Loren Cordain points out that our hunter-gather ancestors’ diets were quite diverse depending upon geographic region and food availability. For example, in Table 3 you can see that the aboriginal Nunamiut of Alaska consume 99% of their calories from animal sources (protein and fat) compared to the Gwi of Africa, who consume upwards of 74% of their calories from plant sources (mostly carbohydrate). With all that being said, with the exception of the Nunamiut of Alaska and the Eskimos of Greenland, who live in far northern, short summer climates, the remainder of the aboriginal tribes likely exhibit metabolic flexibility as indicated by their diets.

Table 3. Proportions of Plant and Animal Food in Hunter-Gatherer Diets.

<table>
<thead>
<tr>
<th>Diet Type</th>
<th>Proportions of Plant and Animal Food</th>
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<tr>
<td>Hunter-Gatherer</td>
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<tr>
<td>Nunamiut of Alaska</td>
<td>99% animal sources (protein and fat)</td>
</tr>
<tr>
<td>Gwi of Africa</td>
<td>74% plant sources (mostly carbohydrate)</td>
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What Effect Does the Hunter-Gatherer Type Way of Eating Have on Modern Man? Unless you are eating every 3-4 hours, your body is going to alternate between glucose (fed condition) and fat (fasted condition) multiple times/day (Figure 1). If, on the other hand, someone is eating every 3-4 hours, it’s true, the body will never be forced to alternate between fuels (Figure 1. This is bad). Alternate-day fasting and time-restricted eating are just slightly greater extremes of what we already do (Figure 2, Normal Meal Pattern).

Alternate-day fasting and time-restricted eating do make more sense than a ketogenic diet. In a ketogenic diet, your body is in a constant state of ketosis (Figure 1). In evolutionary parlance we have a term for this, it is called starvation. No ancestor in their right state of mind would voluntarily a) chose to go ketogenic and b) remain ketogenic when a food supply (carbohydrate) is available. People wishing to go ketogenic should stop messing around and go full on ketogenic like our ancestors during winter months when food is scarce and then eat normal during the spring, summer, and fall months. That would make much more evolutionary sense, but we digress.

We’ve Seen the Manipulation of Meal Timing Before: Intermittent fasting and time-restricted feeding feel very much like a recent dietary fad manipulating the variable of meal timing and frequency. Do you all remember the advice to eat 5-6 small meals a day to keep your metabolism high? Well, there isn’t a shred of scientific evidence indicating 5-6 meals/day actually helps you lose weight over the long
We Understand the Allure of Intermittent Fasting: We know that IF is lucrative because it contains only one set of rules. Time governs eating, nothing else. IF and TRF minimizes planning and the amount of time that you must dedicate to meal planning. You either eat or you don’t. This binary approach is very similar to other fad diets that eliminate or limit fat or carbohydrate by removing grains, gluten, beans, fruits, starchy vegetables, fatty meats, processed carbohydrates, and so on. These approaches are easy because they are so black and white, so simple. Yet, what do they all have in common? 1) They typically induce a negative energy balance, which leads to weight loss (Table 2) and 2) they typically fail after a few months. It is difficult to build consistency around black and white rules. Eating healthy is more nuanced than this. We have traveling, work lunches, happy hours, etc. These restrictive diets don’t allow for eating in all situations in life.

Energy Needs and Distribution are far Different in Modern Man versus Paleolithic Man: The IF and TRF dietary approaches don’t take into account the type of work many of us do, that is, intellectual deep thinking and critical analysis. This type of thinking takes a great deal of brain power and is exhaustive. The brain prefers to run on glucose so in a (prolonged) fasted state your brain may not be running on all cylinders (your brain can adapt to using ketones as its primary fuel but this takes time, during which you may be a little groggy). Although neither of us have tried these dietary approaches (for more than a day or two) and anecdotally, we’re positive that you can find people who swear that their energy doesn’t vary throughout the day or between fed and fasted days, this type of eating just doesn’t seem compatible with the type of work we do these days. Not to say that physical labor isn’t difficult. It sure as hell is difficult but it’s just different. You’re active, you’re doing. You have less time to think about how hungry you are or how you can’t concentrate. Our ancestors likely didn’t utilize the type of brain power we do on a daily basis and they certainly moved around a lot more than we do now as part of their hunting and gathering.

What should you do instead? We’re not going to give you the same old dietitian/health coach talking points of
  
- Drink eight, 8-ounce glasses of water/day
- Eat 5 fruits and veggies/day
- Eat 6-10 servings of whole grains
- Eat lean meats, mostly fish
- Eat nuts and legumes

Well, yes, we see the importance of these recommendations but we also recommend you

1. Establish your own set of nutrition rules (however arbitrary they may seem).
2. Take the time to find out what works for you by food logging/journaling.
3. Build meals out of individual taste (and timing) preferences.
4. Identify your obstacles to healthy eating and generate solutions to overcome them.

No one can tell you the answers to these questions but a health coach or dietitian can help guide you towards discovering these answers. Unfortunately, there is no healthy eating template. That’s what makes healthy eating so damn hard. If you don’t know where to start, start by logging your meals. You’ll quickly see what is and is not healthy. Then determine strategies to keep the healthy parts and improve the unhealthy parts. Nutrition is the easiest and the most complicated thing at the same time.

Who Shouldn’t do IF or TRF or Keto diets? We want to point out that a select group should not try these diets. If you have Type 1 or 2 Diabetes we would strongly discourage you from trying these diets (unless you are already well managed). Your goal is to maintain the balance between eating (glucose) and the insulin your body produces/you inject. Also some medications work best when taken with food. There are also a small set of studies that have looked at people with Thyroid issues. They too should be careful when on these diets as the main hormone, TSH requires glucose to be generated by the body. Without glucose available TSH is not made and therefore your metabolism will slow down causing further weight gain. People who are pregnant and children should probably also avoid these dietary practices. The best advice, if you have a pre-existing condition, please check with your Doctor or RD before making dietary changes.

Practical Implications: Like other dieting strategies, Intermittent Fasting (IF) and Time Restricted Feeding (TRF) are methods to induce a
negative energy balance to lose weight. In our opinion these strategies represent extremes that are not feasible for the vast majority of individuals looking to either eat healthier or lose weight. However, less extreme versions of IF and TRF should be utilized to minimize unnecessary eating occasions. The practical implications of these interventions would include

- Eliminating Night Time Snacking
- Eliminating/Reducing Day Time Snacking
- Compressing Eating Hours to reduce calorie intake

Each of these strategies represent an opportunity to 1) reduce total caloric intake, 2) more fully establish your body’s natural rhythms that more closely represent our ancestral past, and 3) induce metabolic flexibility. Together, this represents metabolic health at its finest.

Todd Weber PhD, RD
Janel Schrader MS, MCHES

Comment

ANYTHING THE FITNESS NUT TRIES WILL WORK FOR HIM/HER, BUT WILL IT WORK FOR YOU?

Todd Weber February 13, 2018

*Fitness Nut* swears that his/her program is the bee’s knees, the be all end all, greatest program that you need to be on to get fit. Truth is you don’t have to follow *Fitness Nut’s* program because there are one million different ways to become fit...

walking, running, bike commuting, road cycling, mountain biking, various team sports, kayaking, canoeing, hiking, mountain climbing, skiing, snowboarding, snowshoeing, weight lifting, CrossFit, circuit training, Pilates, yoga, barre, swimming, body weight workouts, TRX, resistance bands, machines, free weights, plyometrics, surfing, kickboxing, spin class, hip hop dancing, karate/martial arts, high intensity interval training, gymnastics, lightning tag, capture the flag, obstacle course races, parkour, skateboarding, roller blading, tennis, squash, badminton, paintball, you name it.

Well, maybe there aren’t one million ways to become fit but there are hundreds of combinations. Add in the nearly unlimited types of diets you can go on...

good calories/bad calories, paleo/primal diets, detox, brain food, raw foods, juicing, metabolism boosting foods, food for your body type, anti-sugar, blood sugar/glycemic, anti-grain, anti-fat, anti-dairy, optimal macronutrient blends, calorie counting, fighting food addiction, pH-based diets, fasting/alternative day fasting, time restricted eating, superfoods, meal replacement, small frequent meals, plant-based, Atkins, Weight Watchers, Mediterranean, Ketogenic, Zone, South Beach, Whole 30, Beach Body, and on and on...

and voila, you’ve got a nearly unlimited number of ways to meet your diet and exercise needs. What I just listed is a tiny fraction of the most popular diets/dietary habits of the past several years. If you chose one way to become fit and one way to eat from these lists, you would have 1,320 options available to choose from! It can be extremely confusing trying to figure out what exercise routine and diet type are right for you.

If you talk to a personal trainer, nutritionist or Instagram celebrity you may be lead to believe that ‘insert diet and exercise routine here’ is the best program. The Instagram pictures/profiles/stories are pretty compelling. I mean, have you seen some of these people?! Many of them have a particular diet or exercise routine that they absolutely swear by. They got that way by ‘such and such’ diet. They are now the product they are selling. But, the thing of it is...
Why do I say this? Because I know that the Instagram **Fitness Nut** has two things going for him that you may or may not have:

1) **Strict adherence:** It doesn’t matter how extreme, how crazy, mundane or otherwise difficult, **Fitness Nut** is going to be able to adhere to that program. That program is (likely) their life, their number one priority. You don’t just get that way by accident. It is the adherence and not the routine itself that is of critical importance. In fact, he could probably use completely opposing diet regimens such as the very low carbohydrate ketogenic diet **OR** the low fat high-carbohydrate diet to get to that coveted six pack.

The program that **Fitness Nut** follows is his hobby, his job, his livelihood, his passion, his everything. He has dedicated hours upon hours to his program. He’s constantly thinking about it, planning out meals and workouts, fantasizing/dreaming about getting even bigger and better, gaining more fame and grabbing more “likes” and views. He became famous due to the adoption of his program and trying to convince others that this particular program is your golden ticket, your path to success. Fame is a powerful tool. **Fitness Nut** has thousands and most likely hundreds of thousands of followers. He can’t disappoint them by “falling off the wagon”. You’re watching him and keeping him honest.

2) **Genetics:** there is also a very good chance that **Fitness Nut** is genetically gifted. He is likely in the top percentile in terms of response to exercise. We know that people’s response to exercise differs dramatically due to unknown genetic factors. See figure 1 for an example of this.

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**Figure 1. Individual Changes in Muscle Strength (a) and Muscle Size (b) due to a 20-24-week resistance training program.** Black bars represent males and grey bars, females. In response to training, strength changes vary between -6% to +60% for the same training. Reference: Ahtianen, JP, 2016, AGE.

When I first saw this data, I thought what you are probably thinking.

"The people that didn’t respond as well to exercise probably didn’t exercise as intensely."

Nope, exercise sessions were monitored closely. Non-responders (i.e., those that did not exhibit an increase in muscle strength/size) exercised at the same intensity as the responders.

"Well, they must not have attended as many exercise sessions"

Nope, wrong again. They exercised as many days as the high responders.

It turns out that some people simply have a more robust response to exercise than others. Now, what if you happen to be one of those individuals that just doesn’t seem to respond to exercise? Are you a hopeless cause? Nope, but you might have to exercise harder or longer to achieve the response you are aiming for.
Figure 2. Individuals Labeled “Non-Responders” by a Lack of a Training Response to 6 Weeks of Moderate Intensity Aerobic Training, underwent an Additional 6 Weeks of Training Sessions (and Responded Robustly). The shaded purple area represents a “non-response” to the first 6 weeks of training. Individuals that responded to the initial 6 weeks of exercise training are excluded from this graph. There were 3 groups that did not respond to the first 6-week training session. Groups 1, 2, and 3 exercised for 1, 2 or 3 sixty-minute exercise sessions/week, totaling 60, 120, or 180 total minutes of exercise each week. In the second, six-week training session (weeks 7-12), each group increased their weekly exercise time by 2 exercise sessions (1 + 2, 2 + 2, and 3 + 2 respectively). X-axis = training sessions per week, Y-axis = % change in power increase expressed in Watts; this measurement represents their increase in aerobic capacity and fitness. Reference: Montero & Lundby, 2017, J PHYSIOL.

To demonstrate this point, please take a look at figure 2. I know this graph is a little difficult to interpret but please try to stick with me as this is very important. This graph only includes “non-responders” to a 6-week aerobic exercise training program. The participants who responded to the 6-week program with an increase in aerobic fitness (i.e., “responders”) were excluded from further study.

There were three separate training regimens used in the first 6 weeks of the study (all at a moderate intensity):

- Group 1 exercised for 60 minutes 1x/week (60 min total)
- Group 2 exercised for 60 minutes 2x/week (120 min total)
- Group 3 exercised for 60 minutes 3x/week (180 min total)

The open circles (group 1), squares (group 2), and triangles (group 3) show the individual responses people had to the initial 6 weeks of training. The shaded purple area represents their “non-response” to the first 6 weeks of training.

The “non-responders” were then asked to complete a second, 6-week training session (weeks 7-12). In weeks 7-12 each group increased their weekly exercise time by 2 exercise sessions/week:

- Group 1 (1 + 2) exercised for 60 minutes 3x/week (180 min total)
- Group 2 (2 + 2) exercised for 60 minutes 4x/week (240 min total)
- Group 3 (3 + 2) exercised for 60 minutes 5x/week (300 min total)
The results from weeks 7-12 (represented by shaded circles, squares, and triangles), show that each group responded like “responders”, increasing their aerobic fitness!!  

**In summary: Exercise works, some people just need a little more stimulus to adapt.**

The **Bottom Line**: The bottom line is, there are one million different ways to be fit and healthy. **Your mission is to find the one that is right for you.** The program that you like and can stick to. For the majority of the general population, there is no “right” or “wrong” way, provided you aren’t doing something extreme, you’re unlikely to hurt yourself. Find the combination that works for you. Don’t be afraid to experiment. **And stop being so concerned about what “the best” diet or exercise plan is and just do it.**

Remember, **consistency is king!!!!!!** Whatever it is that you choose to do, do it consistently for at least 4-6 weeks. Log your workouts and if necessary, log your food intake as well. Be honest with yourself. If you’ve been consistent with your new routine and haven’t seen the results you want to see, one of three things are going on:

1. your expectations are too high.
2. you are a low to moderate responder.
3. you need to increase the amount of effort you are putting into your diet and exercise routine.

So, the next time an Instagram: **Fitness Nut** (or your co-worker for that matter) tells you that diet and exercise plan “xyz” is just the greatest. Shake your head up and down in agreement and say, “oh yeah, that’s great Bob, I’ll have to try that sometime,” while knowing that any diet and exercise plan can work, you just need to find the one that is right for you.

**Todd Weber PhD, RD**

Comment

**EATING HEALTHY DOESN’T HAPPEN OVERNIGHT: IT’S A LIFELONG PROCESS, HERE’S MY STORY**

Todd Weber February 6, 2018

Eating healthy doesn’t happen overnight, it’s a life-long process of trial and error. For anyone who tells you otherwise, they’re wrong. You’re not going to fix your diet in one fell swoop. It takes time. It takes energy. It takes effort. But you know what, it’s totally worth it. Once you’ve got your dietary system in place, eating healthy becomes so much easier. I wouldn’t go so far as to say that it is effortless but it is much easier. I like to tell people that if they put in the work now and establish a good foundation that later on they won’t have to focus so much time and energy on eating healthy. This allows them to focus on the more important things in life: friends, family, experiences, and good times.

**The long and winding road of healthy eating.**

To illustrate what I’m talking about I’d like to share my healthy eating journey with you. I still don’t eat as well as I should, but I’ve come a long, long ways. I’ve built my foundation and now I don’t have to spend as much time, energy, and effort in eating healthy.
Despite becoming a registered dietitian my dietary habits didn’t really change from high school through my Master’s degree at Iowa State. My diet consisted primarily of peanut butter and jelly or lunch meat sandwiches, cereal, black bean salsa, and frozen pizzas along with “healthy” snacks such as string cheese, yogurt, carrots, and nuts. My diet during this time wasn’t necessarily unhealthy, it was just extremely limited.

From high school to the beginning of my time at East Carolina University (ECU) I was extremely physically active, which helped me get away with poor dietary practices. The first semester at ECU I stopped riding my road bike (as a result of a chronic back injury), ate the same diet I was accustomed to eating as an athlete, studied all day, drank too much alcohol, and gained 20 pounds….my freshman 15 came during the “freshman” year of my PhD.

After my first semester at ECU I transformed myself back into the weight lifter I was during my undergraduate days. I hadn’t seriously lifted weights since college but with my back not cooperating and no longer having hours and hours to ride my road bike anyways, the transition to weight training was a necessity. During this time, I also had to “unlearn” all the poor dietary habits that I had previously undertaken as a road cyclist to maintain my body weight. The high sugar yogurt, eating bagels instead of bread, and other high calorie dietary habits that I had previously adopted to maintain my weight needed to be changed.

In January of 2013 I moved to Denver, CO with Kathleen. In Denver, Kathleen and I slowly started cooking more and more meals. To be honest, part of this was for health reasons but the major reason we started cooking more was to save money. Between my unsteady job prospects and my wife’s post-doctoral fellowship salary, we didn’t have a lot of money to eat out. We slowly and progressively added more and more meals to our repertoire. I don’t have exact numbers on how many meals we added each year we’ve lived in Denver but today we have 103 recipes in our recipe manager (Paprika). To be fair, I recently went through our recipe manager and deleted out 50 or so recipes that we either a) downloaded from the internet and never made b) made the recipe but didn’t like it or c) decided it was far too much work to make again.

During our time in Denver we’ve also branched out and learned how to make several vegetarian based dishes such as quinoa, couscous, quiche, and a variety of bean-based dishes that are now staples of our diets. We have ditched regular yogurt for Greek yogurt, tried to eat more nuts, and eat quite a few hard-boiled eggs.

Our newest meal-planning endeavor is to plan our meals for an entire month at a time. This will prevent us from needing to plan meals out each week prior to grocery shopping. Neither one of us enjoy this task, so only having to complete it once per month or once every 2 months is a welcome change. To help with our monthly planning we have also developed the following weekly system to guide our recipe selection and grocery shopping:

1) Breakfast:
   - Individualized options, Kathleen and I tend to have different preferences for weekday breakfast (i.e., bagel with cream cheese/peanut butter, oatmeal or smoothie)
   - One weekend morning brunch meal (e.g., eggs, potatoes, breakfast burritos)

2) Lunch: vegetarian based recipe
   - Usually a single main dish supplemented with snacks (e.g., fruit, yogurt, string cheese, nuts, cut up veggies, and granola bars)
   - Vegetarian emphasis: 8 out of 10 of our current lunch specific meal recipes are vegetarian

3) Dinner:
   - Pre-plan 4 meals/week
   - At least 2-3 of these meals have to make enough to have leftovers, which supplement the other 3 dinner meals of the week
   - We have ~40 consistent recipe options that we choose from with the goal of trying at least 2 new recipes per month
   - Of the 4 dinner meals we are making a concerted effort to eat at least one vegetarian meal, one fish-based meal and the other two can be meat based
   - We use our crockpot at least once, if not twice, per week
   - We usually cook at least 1 of our 4 pre-planned meals on Saturday/Sunday to allow for recipes that are more complex or have longer cooking times can’t be done during the week

We’ve come a long, long way since my college days of peanut butter and jelly sandwiches but these changes didn’t just happen overnight, they took over 5 years and are still a work in progress. In the process of making all of these dietary changes we have:

- tried ~50 recipes that just didn’t stick
- still don’t have great fish recipes
- need to find more good vegetarian dishes
- have tried Blue Apron and didn’t really like it (If you want to know why it didn’t work for us, let me know and I’d be happy to share my thoughts. Our dislike wasn’t with Blue Apron specifically, it’s just the brand we happened to try)
- struggled with finding time to grocery shop and prepare meals
- ignored planning weekend lunches (we need to tackle this next!)

But you know what? We’re pretty happy with where our diets are today and someday soon we’re going to (finally) get to a place where we have our routine down. We like the foods we eat and the rest of our lives have become so much easier (or unburdened) by being able to eat healthy, remain healthy and active, lean, and when we do go out or want to have some cookies or ice cream, we can easily fit them in!
our diets without feeling one bit of guilt. We have never sacrificed taste for health.

Instead of trying to make several grandiose changes that you and I both know aren’t going to stick, make a commitment to sustainable, lifelong changes. Start to change the small things in your diet that can make you healthier today. Realize that to be successful, you will need to commit to it for the long term. In the end, you’ll be so much happier that you did.

Not everyone has to follow our template, the way we do things is only a suggestion and is still evolving. However, we have developed a system that works for us. In 2018, I hope that you take a little time, energy, and effort to develop or refine a system that works for you. In 2019 and beyond, you’ll be glad you did!

Todd M. Weber PhD, RD

THE BLESSED TRINITY OF WEIGHT LOSS NEEDS A NEW MEMBER

Todd Weber January 16, 2018

In Christianity, the Father, the Son, and the Holy Spirit make up the Blessed Trinity. They are all God, yet they are all distinct “beings” holding equal power and responsibility.

Figure 1. The Blessed Trinity (courtesy Alchetron)

In the world of weight loss, the Blessed Trinity can be likened to:

1) Nutrition
2) Physical Activity
3) Behavior Change/Modification
Although many people rank these elements differently in terms of importance, research (and experience) has shown that we require all three to be successful. Yet, this Blessed Trinity is still somehow incomplete. There is another leg that’s missing.

If you think about the blessed trinity of weight loss, dietitians are in charge of nutrition, personal trainers are in charge of physical activity, and behavioral psychologists or another health professional are in charge of behavior change/modification. All three professionals’ roles and responsibilities overlap with one another to some degree; however, no one professional is solely responsible for helping to control the client’s environment.

In biblical terms, the 21st century food environment is currently akin to the Blessed Trinity’s arch nemesis, Satan. There are an infinite number of food temptations around every corner, everywhere you look, everywhere you are, everywhere you plan to be. Whether you’re at work, home, commuting, on social media or watching television, it is impossible to escape the temptation of food.

We need someone to either fight Satan, or convert him to our side. Unlike the true Blessed Trinity of the Father, the Son, and the Holy Spirit, which can “manage” Satan, dietitians, personal trainers, and behavioral psychologists are no match for our current food environment.

There is no amount of nutrition education, calories burned at the gym, or behavior modification/willpower/cognitive training that is going to overcome our food environments. Despite our best efforts, our current food environment is an unstoppable force. Merely being in its presence will cause you to overeat. However, there is a solution:

**FIX THE FOOD ENVIRONMENT = FIX THE PROBLEM.**

With our biological drive to eat tasty, salty, fatty, sugary foods, coupled with an excessive amount and opportunity to eat, overeating is the inevitable result. Our biological drive to eat isn’t going to change (much); however, we can change our (personal) food environments to decrease both the amount we eat and the opportunities we have to eat.

The food environment is too important to continue to rely on dietitians, personal trainers, and psychologists to manage in addition to the other roles they play. I’m not trying to understate the importance of these professionals. They all do great and important work. But the problem is, their work and where you, the client, live, work, and play (your environment) are in completely different galaxies. This is why we need someone to monitor your food environment and to see the world as you see it in your day-to-day life.

We need to add a fourth member to the Blessed Trinity, someone whose sole purpose is to help you monitor/manage your food
environment. I’m not exactly sure what to call this person or if this occupation even exists; however, the name that comes to my mind is a Food Environment Manager (FEM). If you fix the food environment, there isn’t as much of a need for extensive nutrition education, knowing the number of calories consumed versus calories expended, and you don’t have to rely on willpower to guard against overeating. You take care of your food environment and your food environment takes care of you.

Continuing to address weight management in our current three-pronged approach is only going to result in more long term failure. Knowing what to do is far different from knowing how to do it and eating healthy is no exception. If we can control your food environment, eating healthy becomes much more routine, sustainable, and automatic.

Todd M. Weber PhD, MS, RD

Table 1: Fitbit User Figures (adopted from the Motley Fool).

It has also been well documented that purchasing a Fitbit doesn’t lead to meaningful weight loss. This is frustrating but isn’t surprising as this has been a common theme in the home gym industry for years. How many treadmills or ellipticals are collecting dust and/or serving as a clothes rack in your basement?

I believe that the problem isn’t necessarily with Fitbit, it’s with us. Consumers treat Fitbit like many of the other health & wellness solutions out there, like a quick fix, when in reality, a Fitbit is really just another tool…and a good one at that.

Fitbit solves the painful problem of trying to track your total daily physical activity (exercise and movement of any kind). Our jobs and our lives are so incredibly sedentary (oftentimes not by our choice) and movement quantity, of any kind, is what many of us need to focus on first, before setting more advanced goals (i.e. getting “fit”).

The problem is that moving more requires us to carve time out of our already crazy schedules. Recently, a solution to this time crunch has become more and more popular: high-intensity interval training (HIIT). HIIT is becoming more and more popular, however, HIIT is also not a stand-alone health solution but another tool/part of the equation.

Contrary to popular belief, you cannot perform one HIIT session and call it day. One HIIT session will help an individual get closer to their goal of more movement, but one HIIT session will not cancel out an entire day’s worth of sitting. Nowhere in the history of humans have we been as inactive as we are today. In hunter-gatherer times, you could not drive your car to the hunt site, perform 45 minutes of high-intensity prey stalking/killing, and drive your car back home to sit on the couch or work in your office the remainder of the day. The more likely scenario involved walking several miles, stalking prey, waiting, stalking more, followed by a burst of activity, killing the animal (if you are lucky as there were likely many unsuccessful hunts), and carrying your kill back home (weight lifting).
Put another way in more modern terms, HIIT is akin to taking your kids to a sporting event, concert or buying them a lot of presents on Christmas. These individual actions will make your kids very happy in the short term, but to have a truly great relationship with your kids you really just need to be there for them. You need to spend time with them. I am not a parent so I might not know what I'm talking about, but I can speak from the side of the child. My parents never showered me with gifts or took me to concerts but they were always there for me and I have a great relationship with them.

But, this article isn’t about HIIT or parenting, it’s about tracking physical activity/movement. These days it is easy to log your distinct exercise sessions. Whether that is manually via a notebook or an electronic log, using an exercise watch (e.g., Garmin, more advanced Fitbits) or an app on your phone (e.g., Strava, Nike+), there are many tools available. But, how do you measure your overall total daily physical activity (exercise and other movement)? Fitbit offers a simple way to track your physical activity in an easy to understand, metric: total steps. I believe the basic function of a Fitbit should be to ensure that you spend enough time with physical activity to form a great relationship with your health and your body.

Now, to be fair and in full disclosure, I’ve used a Fitbit religiously since I purchased my first Fitbit Zip in November of 2014. Since then I have kept track of my steps, as shown in the graphics below:

![Figure 1: Todd Weber's Steps per Day from 2015 to 2017](image)

An example of what my step count looks like on a monthly basis is also shown below. As you can see I don't get a crazy amount of steps/month but I am very consistent.
So, by defending Fitbit I’m really defending my own way of life. I lift weights, commute by bike and hike (mostly in the summer). Outside of those activities, I do very little to no other endurance exercise (a.k.a., cardio). The only information I record in my exercise log are details about my weight lifting. This means that I have no official record of the bike rides, hikes or even short walk breaks that I take during the day to clear my mind. Thus, without my Fitbit, I **REALLY HAVE NO IDEA** about my activity level on any given day. Having this knowledge at my fingertips doesn’t make me perfect in my physical activity habits. I still have plenty of days with less than the ideal number of steps (<10,000), but it’s safe to say that I’d be lost, and likely a lot more inactive, without my Fitbit.

With life pulling us in so many different directions, what harm does passively tracking your physical activity do? Maybe you don’t want to know how physically inactive you are, maybe it makes you ashamed, maybe you’re not ready to make a change or don’t think you have the time to change. All I can say is that you can’t afford not to. You all know this and so do I. Let 2018 be the year where you keep track of your health. You don’t have to wear a Fitbit to keep track of your health but it makes it so much easier.

To good health,

Todd Weber PhD, RD

Comment

8 BOOKS TO BETTER YOUR BODY AND YOUR LIFE IN THE NEW YEAR

Todd Weber December 19, 2017

Let’s face it, most diet/health & wellness books just plain suck. They tend to be incomplete, biased, myopic, hyper-focused, conspiracy laden, ill-informed, fad driven, flavor of the month texts that likely won’t help you accomplish much of anything other than passing time. Reading them may make you (temporarily) feel better in knowing that you are trying to do something to better yourself; unfortunately, the vast majority of these books are NOT the answer to the questions you should be asking: how do I eat better, live better, and feel better?
Example of Diet/Health & Wellness Books not Worth Reading.

But don't despair, there are a few select books out there that are well-written, absolutely extraordinary and are SOOOOOO worth reading. These texts can help you build a framework with which you can approach health & wellness in the coming year and if you are serious about improving your health and well-being I would suggest reading one or several of them. I've read 5 of the eight books and will introduce them to you in the order that I read them.
THREE EASY STEPS YOU CAN TAKE TO DRASTICALLY IMPROVE YOUR NUTRITION KNOWLEDGE

Todd Weber November 6, 2017

Let’s face it, when it comes to nutrition, everyone thinks they know nutrition, when in reality, their knowledge is probably quite limited. Now to be fair, this isn’t their fault. I mean, when you think about it, where did you learn about nutrition? When and where did you develop your views? Nutrition is nowhere to be found in the k-12 education system and doesn’t have to be taken in college. So where do we receive our nutrition education?

Food marketing/advertising, the news media, and word of mouth……it’s no wonder we don’t know what the hell we’re talking about when it comes to nutrition. Here are 3 simple rules for better understanding nutrition.

1) The Power of Habit.  Brushing your teeth, backing your car out of the driveway, driving to work.  These are all automatic behaviors.  We do them without even thinking.  This text was the first to introduce me to how so many of the things we do throughout the day are pre-programmed.  It also gave me the idea that this is how we need to approach health & wellness, take behavior out of the equation and make your (healthy) actions automatic.

2) The Compass of Pleasure: How Our Brains make FATTY FOODS, Orgasm, EXERCISE, Marijuana, GENEROSITY, VODKA, Learning, and GAMBLING FEEL SO GOOD.  Truly a remarkable read.  Neuroscientist David Linden demonstrates how the brain is a pleasure-seeking machine.  Whatever brings us pleasure is what the brain seeks out; even volunteering may not be all “that” altruistic as it makes us feel good.  The Compass of Pleasure begins to explain why we seek/crave food and makes numerous relevant comparisons to the world of addiction.

3) WHOLE: Rethinking the Science of Nutrition.  T. Colin Campbell had a long and outstanding academic career publishing nearly 400 research papers.  Here he outlines how the “reductionist” approaches of the scientific method are insufficient for studying what makes a food healthy and how nutrition proponents of today cherry pick research to support their products, claims, and causes.  Truly eye opening.  A sometimes dense read but well worth it.

4) Mindless Eating: Why We Eat More than We Think.  The environments in which we live and work have an enormous impact on the quality and quantity of the food we eat.  By changing food labels, food presentation, portion size, lighting, food convenience, and a variety of other variables, author Brian Wansink shows us how making simple changes to your food environment causes drastic changes in your food consumption (and most likely your health).  Amazing work.

5) The Hungry Brain: Outsmarting the Instincts that Make Us Overeat.  Take books 1-4 in this list and combine them into one.  Probably my favorite book to date as it covers neuroscience, behavior change, and the environmental impact on your food decisions all at once AND science based suggestions on how to overcome them.  The text is neuroscience heavy at times and is written for a more professional audience, but is a fantastic read nonetheless.  I will be reading this again!  I can’t say enough about this text.

6) Lift Like a Girl: Be More Not Less.  A girl after my own heart.  A no nonsense, I am going to call out your bullshit, I am going to destroy your pathetic, bourgeois, health & wellness norms and tell you exactly what you need to do to be healthy, kind of girl.  If you need motivation and a new direction, author Nia Shanks is a must read.  She also has a ton of free content on her website, check it out.  One of my all-time favorites!

7) The Diet Fix: Why Diets Fail and How to Make Yours Work.  Although I have not yet read Dr. Yoni Freedhoff’s book, his premise is absolutely, 100% correct.  Written through the lens of an obesity doctor with years of experience, Yoni not only knows the academic literature but also knows how to apply it.  Based upon his social media feed and blog I am confident this is a great book for anyone wanting a step-by-step how to guide to fixing your diet.

8) Science and Development of Muscle Hypertrophy.  Again, I haven’t read this book yet either; however, Dr. Brad Schoenfeld is one of the world’s premier experts in muscle development.  I don’t know anyone who has contributed more practical knowledge to muscle hypertrophy than Dr. Schoenfeld.  I have learned a tremendous amount from him over the past couple of years by following him on social media.  Unlike bodybuilders, Muscle & Fitness, and your run of the mill, meathead, Dr. Schoenfeld is able to blend real world experience with cutting edge science.  Interested at all in building muscle?  This is your read.

Well, there you have it.  These are my favorite diet/health & wellness texts.  All of them, in my opinion, are worth reading.  If you think there are some that I am missing, please let me know.  I’d like to read them.
1) Don’t Believe Anything Food Marketing Tells You.

Meaningless nutrition buzzwords + a grain of scientific evidence = food marketing strategy

Now, I know that this equation is an oversimplification. Some of these buzzwords are relevant to human health in a specific context and some people reading this are going to be irked that I am glossing over or ignoring their importance. However, do you really think that people are going to take the time to figure out which words are important and in what context? I don’t think so.

Food marketers constantly utilize non-contextual “facts” to help create ambiguity about the healthiness of their food product and/or to create a “health halo” whereby a food is now thought to be good for you when in fact it has very little nutritional value (example: regular yogurt contains an excessive amount of sugar, yet that can be overlooked because of the “health halo” created by the probiotics yogurt contains).

Arbys: We Have the Meats

I actually prefer the straight forward advertising of Arby’s “We have the meats” and Hardee’s/Carl Jr.’s advertisements that are completely tasteless (supermodel sexily eating burger). At least their approaches are straightforward: our food tastes good and is bad for you but you the consumer are not concerned about your health, so go ahead and eat a ton of this cheap, crappy food. At least this type of advertising is to the point rather than food companies often trying to “educate” us into thinking their products are “healthy” by throwing a catchy jingle, nutrition buzzword, and soft female voice together in a commercial explaining how healthy their food is (A hem… Panera!). I challenge you to compare and contrast the calorie counts of Arby's and Panera Bread.
2) Don’t Believe/Trust Media Sources.
I bet you’ve never heard this one before, “According to a recent study...” This is classic FM radio, television news, and Today Show banter and what I refer to as factoids and tidbits. I don’t even know what the point of these supposed public service announcements are other than to confuse us and plant seeds of doubt in our minds. People have short attention spans. I get it. So, you want to compress the information into a short period of time before losing them. But tell me, when was the last time you learned something from one of these stories and applied it to your life? My guess is never.

If you really want to learn more about something, you have to work at it. Firing off 30 second, non-contextual factoids isn’t doing anyone any good. I think we’d be far better off not covering these “news” stories at all or taking the time to do a featured story on the topic at hand.

3) Find Health Mentors/Trusted Sources of Information.
I have been fortunate enough to be able to obtain a MS in Exercise Physiology and a PhD in Bioenergetics and Exercise Science. Along the way, I was mentored by several exceptional scientists who taught me so many things including how to think critically, form and test hypotheses, and how to decipher bullshit from real science. I devoted much of my life from 2000 to 2013 to learn about nutrition, exercise science, and health and wellness.

But you can say, Todd, that’s all fine and dandy, but I don’t have 13 years to devote to learning about nutrition, nor do I have access to academic mentors. How do I find reliable sources? Well, I’m happy to say that I have done some of the dirty work for you.

I have a shortlist of people I think you should follow if you want to learn more about nutrition/health & wellness. After graduating with my PhD in Bioenergetics and Exercise Science in July of 2013 I have been constantly searching for people that I could continue to learn from within the health & wellness field. Here are the best of the best (in my opinion via Twitter):

Nia Shanks
Stephen Guyenet, PhD
James Wong
Brad Schoenfeld, PhD
Dylan Mackay, PhD
Brenda Davy PhD, RD
YLMSportsScience
Kevin C. Klatt
Kevin Hall, PhD
Kevin Folta
Dr. Michael Joyner
Ted Kyle

The reason why these individuals are such great follows are that
1) they post often
2) their posts contain relevant, reliable, scientifically sound information
3) don’t have (an obvious) agenda/ax to grind
4) are curious and in search of the truth
5) are not going to steer you in the wrong direction.

If you follow these three simple steps

1) Don’t Believe Anything Food Marketing Tells You.
2) Don’t Believe/Trust Media Sources.
3) Find Health Mentors/Trusted Sources of Information.

You will be well on your way to better understanding nutrition and health & wellness in general.

Sincerely,

Todd M. Weber PhD, MS, RD

Comment