

Why Diets Are Failing Us!©

By: Peter Greenlaw & Dr. Dennis Harper 8-17-09

This article is not intended to treat, diagnose or make recommendations about any disease. It is always recommended to check with your health professional before beginning any diet, exercise, or cleansing program.

There are a number of reasons why diets do not work anymore long term in our present world.

1. The first reason diets don't work is that we are living in a polluted world. Major studies conducted by Mt. Sinai Medical School and National Geographic have shown that our bodies are storing pollution, acid and impurities in fat cells.

This is one of the main reasons over 75% of America is now overweight and recent reports estimate that over 3 million Americans now weigh over 500 pounds.

Isn't something terribly wrong with this picture?

What is happening to us as a society and as a world?

Specifically, the liver is overloaded and it is the major way that the body deals with the pollution, waste and acids that are flooding our bodies.

"The body stores these impurities in pre-existing fat cells and it creates fat as the impurities continue to enter the body. The fat cells enlarge and shrink to accommodate the fat storage needed.

Additionally, our bodies will hold water due to inflammation which dilutes these substances."

Dr. Dennis Harper

Proper Nutrients is the key to assisting the body in cleansing.

In order for the body to naturally cleanse itself, it needs proper nutrition. You must supply it with proper nutrients and more importantly, trace minerals.

The body requires trace minerals and rare earth elements in order to speed up enzyme reactions in the body.

It is the role of the enzymes to either break food down or to cleanse the impurities from the body. Without the trace minerals, the body does not have the necessary ingredients for the enzymes to cleanse the body.

Where did these trace minerals go?

The vanishing trace minerals were discussed in a report to the U.S. Senate on the condition of the soils in North America in 1936. The report said that the soil had become almost void of trace minerals once they no longer rotated fields and began using pesticides and herbicides. Keep in mind this report was done in 1936.

Why is this important?

Ionic trace minerals are responsible for speeding up enzyme reactions in your body. Enzymes are responsible for cleansing your body, digesting food, delivering nutrition, building new proteins and producing energy. Enzymes are destroyed when we cook, refrigerate, or use microwaves to prepare food. Without enzymes and these ionic trace minerals the body does not have the necessary tools to cleanse itself. The enzymes can only do their job if the necessary ingredients (ionic trace minerals and rare earth elements) are present.

Keep in mind we can eat ourselves into sickness, but without trace minerals and digestive enzymes it is very difficult to eat yourself into wellness. Our food supply has become nutritionally bankrupt of these ionic trace minerals even if the food source is organically based.

This is the second reason that diets do not work. You simply can-not reduce the amount of food you take in when the food already has almost no nutrition in it, lacks trace ionic minerals and we destroy the enzymes in most food preparation.

Dieting just does not make any logical sense.

Yet there is a new diet every week.

This is like rearranging the deck chairs on the Titanic; looks great but the ship is still going to sink. We do this over and over again, diet after diet, day after day and then we are surprised when we starve and kill ourselves to lose a little weight only to gain it back in a 4th of the time it took to lose it. That is so discouraging to anyone that has been through this. We then feel guilty or maybe this was the wrong diet.

No, it was not the diet it's the fact that diets can-not work long term given the toxic world we live in. Diets are based on a premise that may have worked 100 years ago and are not set up to deal with all of the pollution, impurities and toxins in the world we live in.

Sugar Burning Fat Burning is another reason Diets do not work.

2. The way the body is designed to work is to burn fat, proteins and sugar. The body burns fat, protein and sugar all the time. During emergencies it turns to what is easily broken down which is glucose and glycogen but it will also metabolize proteins as well during this time of emergency.

“The problem is the majority of us are in sugar burning most of the time because the foods that we eat are mostly high glycemic foods that contain lots of sugar. Just burning sugar should only happen when we are in a state of flight or fight like being chased by a bear”.

Dr. Dennis Harper

3. We are addicted to sugar even in fruit juices that you would believe are healthy for you.

The insidious part about sugar burning is that the brain needs sugar (glucose or dextrose) to function. The brain requires 4 grams of pure glucose or dextrose every 3 hours for fuel.

Look at how much sugar is in Apple Juice or other fruit juices. For example, we give our babies juices that have upwards of 26 grams of sugar; that is 6 times more than the brain needs

to function. But it is important to remember that we must also nourish the rest of the body as well so it will require more than 4 grams to keep the body healthy. The problem is constant sugar burning does terrible things to the human body.

“As soon as the body senses higher glucose levels the insulin levels will become much higher which can result in a hypoglycemic reaction that can increase adrenaline, a stress hormone called cortisol and another hormone called ghrelin.”

Dr. Dennis Harper

Ghrelin shuts leptin down, and leptin is what controls our appetite. So, constant sugar burning actually increases our cravings for sugar and carbohydrates. (See more on Ghrelin and appetite in a separate article attached)

“Higher levels of adrenaline are necessary if you are being chased by a bear. Cortisol is produced every night to help keep inflammation down but higher levels should only be used for short periods of time. Sugar consumption can cause higher levels of insulin which may produce inflammation, hypoglycemia and then trigger adrenaline. This will increase the levels of cortisol which is abnormal.” Dr. Dennis Harper

Cortisol stops fat burning and immediately makes the body burn sugar and proteins. A result of high cortisol levels is it inhibits the pancreas from producing enzymes for the digestive tract.

Long term, this sugar burning produces lactic acid. Lactic acid prevents the cells from absorbing oxygen and as the cells are deprived of oxygen they eventually die.

The enzymes that carry nutrition to the cells also assist in removing impurities that are stored in fat cells. As fat cells are burned for energy, they release the stored acids and impurities into the body. The impurities are carried to the liver and then the liver passes them on to the colon and then out of the body or changes them into water soluble toxins and are then eliminated by the kidneys or sweat glands.” Dr. Dennis Harper

If you are burning sugar which triggers an insulin spike, this may produce hypoglycemia which increases adrenaline, cortisol and then ghrelin; then the fat cells are not being utilized and are not releasing the impurities.

The bigger problem is the enzymes require trace minerals in order for them to work at maximum efficiency. We are all familiar with essential minerals like iron and calcium, but trace minerals are rare and responsible for enhancing enzyme reactions.

“Trace minerals are found in health food stores in various products, some that are colloidal, complexed with amino acids and some that are ionic. Typically you will see 18 to 20 of these trace minerals as a stand-alone supplement. In my opinion the ionic form of trace minerals is best for absorption.” Dr. Dennis Harper

4. Even a diet that is high in vegetables does not detoxify us and believe it or not even juicers that process vegetables into a liquid form mostly turn into carbohydrates (sugar) when they enter the human body. What is the reason this happens?

“Because the vegetables have carbohydrates and our bodies will convert these complex carbohydrates into simple carbohydrates (glucose, fructose, etc.). This is done in the digestive process by amylase and how rapidly foods raise the glucose levels in the blood are which determines glycemic values.”

Dr. Dennis Harper

5. No Carb diets? “I personally believe that no-carb diets do work since it puts a person into a state of ketosis which gets the body into a fat burning mode. When you burn fat it turns into fatty acids and glycerol. Glycerol is then turned into glucose. This would provide the brain with the glucose it needs. The fatty acids are processed in a different pathway but will still yield energy by going through the Krebs cycle by way of beta oxidation. However it is important not to put the body into long term ketosis.
6. Therefore the key is to provide the body with adequate nutrition while going through this process. This, nutritional cleansing technology allows the body to get right to the point of ketosis without going into full blown ketosis. This is what makes the cleansing technology so exciting.” Dr. Dennis Harper
7. How about low calorie diets?

The brain works on sugar to produce energy. The brain requires 4 grams of glucose (sugar) every 3 hours.

If the brain does not get sugar it will die; what happens is long before the brain dies it will tell the muscles to start burning proteins and fat for energy which replenish glucose at the same time. Easier said than done; in order for our muscles to function, the muscle first has to break protein down into acetyl-CoA so that it can go through the Krebs cycle to produce energy.

Consequently, the muscles are used as fuel so that the rest of the body can function. It also will break down fat into glucose to give the brain the glucose that it needs. As time goes on low calorie diets preferentially burn muscle as opposed to fat.

And, this is why doctors like Dr. Harper are against fast weight loss diets; because the diets cause the body to lose lean muscle mass.

“This is not the case on this revolutionary nutritional cleansing technology where you lose tremendous amounts of weight safely and quickly while in most cases gaining lean muscle mass. I was shocked to see stable or increased muscle mass despite incredibly fast weight loss in my patients. This just does not happen on diets.” Dr. Dennis Harper

8. Because you are losing lean muscle mass on low calorie rapid weight loss diets, insulin levels go up which trigger adrenaline, ghrelin and cortisol to go up and here we go again on the merry go round. Believe it or not eating a low calorie diet puts you in muscle burning mode the opposite of what you would think.
9. Another negative of low calorie diets is they actually slow down our metabolism.

10. Why does this occur? It occurs because in all of our cells and muscles there is something called Mitochondria. Think of Mitochondria as little furnaces. In essence Mitochondria are the work horses of our metabolism. They are responsible for how many calories we burn.

“These furnaces are there to burn fat, glucose and proteins (turned into Acetyl CoA or succinyl CoA) for energy. Mitochondria are responsible to burn fat to produce the long term energy the body requires. The problem is when you are on a low calorie diet and you are losing weight, you are losing lean muscle mass and mitochondria. What happens is that as Mitochondria are reduced your body’s ability to burn up calories goes down. You are eating the same amount of calories but with less mitochondria. Your body is burning less calories and it begins to put the weight back on.

This also happens as we get older and our hormone levels drop. As these levels drop we start to reduce the amount of muscle mass which drops the energy requirements for our bodies. This may be why so many older people say that they are not eating many calories and yet they are gaining weight. Again, they need to be able to get into a fat burning mode and get out of sugar burning. This is where the trace minerals are so important. Another problem is that low calorie diets increase ghrelin and reduce leptin which also interferes with energy production and stimulates hunger. Low calorie diets can also lower the thyroid’s function and put our bodies into a state of famine which preserves fat.”

Dr. Dennis Harper

12. Caloric Reduction Diets do not work in the long run either.

The problem with caloric reduction diets in conjunction with conventional food or even organic food is the food does not contain any or enough trace minerals and rare earth elements.

Typical diets reduce the number of calories you eat which reduces the amount of fuel for your body to burn fat. To make the problem worse, you are now depriving your body of the required amount of nutrients, vitamins and trace minerals to burn fat.

Because food has limited or no nutrients and minerals it will crave more and more and that is why we are overweight in the first place. We are now the most overfed and undernourished society on the planet.

“The sugar/glucose burning uses mitochondria. It is first changed into pyruvate which then is transported into the mitochondria and then turned into acetyl CoA which then is turned into energy.

“When you come off the caloric reduction diet you have fewer mitochondria available to burn fat and your thyroid function may be less which also causes your metabolism to slow down. That means that even if you eat less food now your body will still begin to gain weight again. It is a terrible catch twenty-two, commonly known as yo-yo dieting.” Dr. Dennis Harper

(See attached report on the Krebs cycle and how the body burns fat)

[How do I get my body into fat burning mode?](#)

There are several steps that are required to get your body into fat burning mode.

First and foremost you have to stop the body from burning just glucose.

How do I do that?

You go on a fast. If you stop supplying the body with solid food for just 4 hours your hypo thalamus gland begins to produce growth hormone and it begins to build lean muscle mass and it starts to burn fat. It takes 24 hours of not eating solid food in order to use up the stored sugar Glycogen in the liver. It is in the second 24 hours once the sugar is used up that your body must now turn to fat for energy.

It sounds like going on a fast is the answer. Unfortunately, people are going on water fasts for 10 days and they are gaining 10 pounds.

How does this happen?

Once you have put the body into fat burning, as the fat cells burn they are dumping the impurities and the acids into the body. Keep In mind that you are only drinking water on a fast. You are not supplying the body with the nutrients and ionic trace minerals to speed up enzyme reactions that carry the excess acid and impurities that are circulating inside the body. Your body will sense these high acid levels, and can sometimes retain water to dilute the acid and impurities that are now dumped into the body.

So, fasting with no food and no nutrition can cause water retention which causes weight gain. That is why these people who are doing water fasts are gaining weight in many cases.

So what is the answer?

If I need to cleanse then what can I do, and how do it do it?

There is a company that has in fact addressed this dilemma. This revolutionary new approach to cleansing was invented in 2002 by the company Isagenix. Isagenix is the world leader in nutritional cleansing. This revolutionary cleansing technology was invented by arguably the world's greatest nutritional formulator, John Anderson.

John Anderson has formulated and manufactured over 2,200 nutritional formulations for over 650 companies for over 28 years.

Anderson invented this revolutionary technology as a result of a life threatening health challenge. He was the first person to ever use this Cleansing and Fat burning technology. And, he was shocked and amazed that one of the side benefits was tremendous, fast and safe weight loss without losing lean muscle mass. After experiencing the fast safe weight loss himself as a result of cleansing John Anderson then got a bunch of doctors and health professionals together to figure out why this weight loss was occurring. What these health professionals concluded was that as we ingest all of the impurities in our world (from water, air food and chemicals) into our bodies our body does not know what to do with them so the body stores them in fat cells. There is nothing else the body can do with them as our bodies do not know how to deal with Scotch Guard, Teflon and many other chemicals. And, herein lays the main reason that diets do not work and why everyone needs to be cleansing.

Cleansing is for everyone, not just to lose weight.

Cleansing is for everyone not just those who want to lose weight. We tell everyone to not look at this as weight loss program as much as the technology that promotes wellness in your body.

Weight loss is a significant side benefit. For many people more energy, mental clarity, and a new zest for life are as significant. You can be in great cardiovascular shape and still have high blood pressure, diabetes and other diseases.

What did he invent?

The 4 products that make up the cleansing technology:

First, Anderson found a very rare source of pure organic Whey Protein which is only found in New Zealand. This is arguably the finest and purest protein on planet earth as you will see.

Why New Zealand?

The cattle in New Zealand are not given hormones or antibiotics!

- a. The Whey protein comes from cows raised on land where no pesticides or herbicides have been used and the cows graze on grass and are not given corn feed of any kind. Whey protein you typically see in stores comes from cows raised domestically. It comes from cows that typically loaded with herbicides and pesticides and these cows have been loaded with corn feed. (to find out why this is so dangerous please refer to the new book the Omnivores' dilemma and you will never look at corn fed beef the same again).

The New Zealand cattle are not injected with growth hormones, antibiotics or estrogens.

- b. Another important difference between whey proteins in New Zealand is that they do not use high heat pasteurization. High heat pasteurization kills digestive enzymes, the living part of the food. These enzymes are needed to help to break down the whey protein into amino acids, the building blocks of life. This protein also contains 20% more of the most important amino acids than any other protein available. The high amount of the most important amino acids really promotes lean muscle mass development. Simply put, Isagenix has the world exclusive on this whey protein, and there is nothing that can match it. You are not going to go down to your local health food store or market and buy a protein like this.

Another reason that high heat pasteurization is harmful is that it denatures the protein. It means that the protein has been altered do to the heat which makes it much more difficult for the body to use. This specific New Zealand whey protein, because it has been low temperature spray dried is un-denatured which means it has not been altered in anyway. This means it is much more easily utilized and absorbed by the human body.

It does you no good to load up on protein only to have it not being absorbed in the body.

This is a challenge for athletes who use conventional protein produced in this country.

The whey protein in this country is denatured and a lot of it can-not be absorbed as easily as the whey protein from New Zealand.

This undigested protein inhibits the maximum human potential for lean muscle mass development.

Don't you want the maximum human potential for lean muscle mass development?

This is not the case with the un-denatured protein from New Zealand. If an athlete has a choice between this is New Zealand whey protein and any other protein available there would only be one choice Isagenix. This protein is only available from John Anderson's company Isagenix.

Domestic protein is pasteurized killing the digestive enzymes. To make up for the effects of domestic pasteurization, whey proteins are artificially enhanced with digestive enzymes.

On top of this the New Zealand whey protein shakes are sweetened using beet sugar and honey. The New Zealand shakes are a whole meal replacement which is critical, because the shakes have fiber, nutrients and minerals. This natural fructose from beets does not cause an insulin spike in the body which is critical.

The fructose can be changed into glucose for the brain as well as the rest of the body.

This whey protein from New Zealand has virtually no lactose in it and they have even put lactase in to insure that even those with lactate intolerance can typically take these shakes.

The other unique feature of these whey protein shakes is that they have been blended to closely replicate the new nutritional standard guidelines covered in the book the "Zone Diet."

This revolutionary new approach to nutrition is based on the following formula for the perfect balance in foods:

40% carbohydrates

30% fats

30% protein

The important part is to keep the carbohydrates less than 40% with no more than 600 calories which these New Zealand shakes meet both criteria.

The second product he invented is an Aloe Vera gel cleanse drink which is made from a very special manufacturing process. Normally, Aloe Vera gel is processed in this country by running it through a pressing process to get the juice out of the plant. The problem is this typical manufacturing process of heat and pressure destroys the enzymes in the Aloe Vera. John Anderson knew this and used a different process. He used a process used to create Powdered Milk called a low temperature spray dried process.

Why did he use this low temperature spray dried process?

To preserve the huge concentrations of enzymes in the Aloe Vera!

Aloe Vera is the most studied of any plant source. For centuries it's been known for its healing powers. There are over 1,500 studies that have been done on Aloe Vera. Also, Aloe Vera unlike other trendy juices now on the market contains chlorophyll, the blood of plants. Most other juices do not contain chlorophyll, the most important part of plants. Aloe Vera is also 1 of only three plants that also contains high concentrations of vitamin b13. You will not find this in the other so called wonder juices.

John Anderson only used the inner heart filet of the Aloe Vera plant which contains the highest concentration of these enzymes and mucopolysaccharides in the plant.

This remarkable Cleanse Drink contains over 220 nutrients that the body needs including more than 70 trace minerals and Alfalfa Minerals to help speed up Enzyme reactions. The cleanse drink is also formulated under a patented process exclusive to Isagenix which retains a 3% solid concentration of the Alfa ionic minerals and ionic trace minerals. This proprietary and amazing formulation is not available anywhere else. There is not another product on the market with a 3% solids concentration of ionic trace and Alfalfa minerals.

Other companies have only 1.5% trace mineral concentration; the Isagenix patented process gives you twice as many minerals as any other product. In addition, Isagenix has added Alfalfa ionic minerals in a patented process exclusive to Isagenix. This proprietary blend now adds even more minerals to the Aloe Vera. Alfalfa allows the absorption of the minerals into the body much more easily.

Simply put this "Cleanse for Life" drink may be the most nutrient dense formula ever formulated. This is truly a revolutionary and remarkable technology.

The third product that makes up this cleanse is a chewable nutritional snack loaded with more than 70 Trace Ionic Minerals that are in all the other products. These snacks have no stimulants. They do in fact suppress hunger because of all the nutrients contained in them. These snacks are not optional and contain the right balance of protein, fats and carbs just like the shakes. The snacks are important to keep the body in balance and to prevent the afternoon crash which occurs on a diet. The complex amino acids in these snacks help support lean muscle mass development.

The fourth product is the only capsule that you take and it's designed to assist the body in burning fat. It also contains more than 70 trace Ionic Minerals and Alfalfa ionic minerals that are in all the products.

How to do "The Nutritional Cleanse:"

The program begins with 2 Pre-Cleanse Days.

These are the two days before actually starting the cleanse.

These days are for preparing your body. Your body is also beginning to burn fat on the first 2 pre-cleanse days. A huge misconception about the Isagenix program is that because you are limiting calories, this is a diet.

This is not a diet.

The Isagenix formulations are specifically formulated with massive amounts of naturally occurring enzymes, essential minerals, more than 70 trace minerals and nutrients your body so desperately requires to begin the fat burning process.

Note: Keep in mind it is your body that is doing the cleansing. When the body is being supplied with what it needs, it will naturally cleanse itself.

The trace minerals are there to speed up the reactions of the massive amounts of enzymes that are naturally occurring in the cleanse itself.

Burning the fat in fat cells will release the acids and impurities that are stored in fat cells into the blood stream which then takes them to the liver, colon or to the kidneys if the liver has converted them into water soluble waste.

On any conventional diet you are lowering calories and you are now restricting the most important thing you can put in your body, nutrients and trace minerals.

After the first 2 pre-cleanse days you now begin two days of the cleanse itself.

2 CLEANSE DAYS

All cleanse days are the same as you go from eating solid food to the Aloe Vera liquid nutrition, the snack and the one capsule. This is very important to understand how this cleanse works.

In the first 24 hours of the deep cleansing, your body uses up the sugar and Glycogen that are stored in your liver because you are not consuming solid food. Within the first 24 hours of drinking the cleanse drink, your body begins to produce growth hormones which trigger fat burning and begins to build lean muscle mass.

On the first day of the deep cleanse you will consume 4 ounces of the Aloe Vera (Cleanse for Life Drink) four times a day, along with 6 to 8 of the nutritional snacks and two super vitamins. Before you go, "Oh I can-not go without food," think again. You are thinking diet! Because your body is being flooded with massive amounts of nutrients, trace minerals, fats and proteins you are not hungry. We have had people weighing over 600 pounds do this program and tell us they were shocked that they were not hungry. Do not let your opinion of a low-calorie diet influence you. You have never done anything like this before. The body is satisfied because for the first time ever it has massive amounts of nutrition. Therefore, you are not hungry because the body is satisfied from a nutritional point of view. Remember this is about nutrition not calories.

**A new Paradigm in Nutritional Science; and it will never be the same again.
It is not calories that matter in food it is what is in the calories.**

We have it all wrong in focusing on just calories and not looking at what is inside that calorie. If the calories contain in the case of this cleansing technology massive amounts of nutrition then the calories do not matter as your body is satisfied. That is the most important point in what John Anderson invented. He was able to create a nutritional super calorie©. This in fact is a new term and a new concept in nutritional science. This nutritional super calorie© contains the nutrition many times greater than calories coming from our foods grown in our nutritionally bankrupt soil.

To give you an idea of how depleted our foods are it would take about 12 apples in 2009 to equal the nutrition in just one apple from 1976. The nutrition in a bowl of spinach from 1957 requires 51 bowls of spinach in 2009. How in the world can you get enough nutrition?
The answer is you can't. And, that is why we eat and eat and yet are never really full. It is not your fault.

Another way to think about it is this. Imagine that they came out with a new gasoline additive that allowed you go from 20 miles per gallon, to 100 or 200 miles per gallon. That is the concept behind this nutritional super calorie©. So, in your car you would use so much less gasoline and yet you go so much farther on a tank of gas. Imagine if you could do that with food?

And, in essence this is what this nutritional cleansing technology provides you. On a cleanse day when you are only ingesting the cleanse for life drink, the snacks and the super vitamin it looks like you are not getting many calories and therefore you would assume you would be hungry. However, because you have nutritional super calories© you are getting the nutrition you need to run your body efficiently. In today's world it is not about how many calories we consumer, but rather how much nutrition we give the body. The old model of calorie counting is broken. Today's food is basically nutritionally bankrupt, and the more you eat does not mean you can supply the body with the nutritional needs to run all of its systems. In essence we are running on empty with most of the food we eat, and we wonder why we are tired and exhausted! No wonder?

On the first cleanse day, your body is moving towards fat burning. You do not begin 100% fat burning until the end of the 48 hours. It is on the second day when the excess sugar and carbohydrates that were stored in your liver are used up. You are now in full blown fat burning mode. To give you an idea as to why it is two days of cleansing and not just one is that in the first 24 hours of cleansing, 20% of the value of cleansing occurs. It is during the second 24 hours that 80% of the value of cleansing occurs. It is on these cleanse days when the body increases the levels of growth hormone and really begins to build muscle.

The thing people do not understand is; if you are overweight, you are burning sugar, not fat!

THIN PEOPLE

The reality for thin people is: thin people can be fat inside according to a recent article out of London. They tracked a large group of people over a 10 year period with the assistance of MRIs and found that although people appeared to be thin on the outside, they were actually fat on the inside! This is because unless you can provide the body with the proper nutrients and minerals, your body cannot sustain fat burning no matter how much you work out. This is why everyone needs to cleanse.

FAT CELLS, CARBON DIOXIDE & CORTISOL LEVELS

A little known fact is that when a fat cell burns, the by product is carbon dioxide. Carbon dioxide lowers your cortisol levels! Lowering cortisol levels enables the body to produce the proper hormones which create proper brain chemistry. This allows your body to function properly. It is now known that high cortisol levels and high insulin levels are major contributors to the disease states in human beings. When you have high cortisol levels, your body can only burn sugar. When you burn sugar, you raise cortisol levels as a by-product. When your body burns fat, you produce additional carbon dioxide which lowers your cortisol levels. Again, this produces the proper brain chemistry making your body work effectively.

Congratulations on completing your first two cleanse days.

Day 5: When you weigh and measure the morning of day five, get ready to be shocked. In many cases you may lose as much weight in the first 4 days as you do on a diet in a month. And, people may say it is water weight.

First of all we teach you to consume ½ your body weight in ounces of water each day. If you lost that much water in 4 days you would probably be headed to the hospital.

Day 5 occurs after your second day of cleansing on the initial 11-day program, the reason you go back on a shake, a meal and a shake is that your body requires additional fuel and these shakes provide the perfect combinations of carbohydrates, fats and proteins along with the Trace Minerals to continue the fat burning process. Without these trace minerals your body does not have what it needs to continue burning fat and cleansing.

It is extremely important that you follow the diet recommendations for proteins, complex carbohydrates and proper fats...Yes, fats!

FATS

Fats are extremely important in maintaining the fat burning process in your body. Think of it like an old hand water pump. In order for the pump to work, you must prime it. The reason we have you add the fats like coconut oil is to slow down the release of glucose to the brain. When you eat processed foods, simple carbohydrates and refined sugars, the excess amount of sugar when it gets to the brain triggers an alarm. The brain, with too much sugar triggers insulin to control the sugar and immediately begins to convert it into fat. The minute you increase the insulin levels, you shoot the cortisol levels up which prevents hormone production which inhibits the production of serotonin for women and dopamine for men.

It is so important on your shake days that you do not have refined sugar, simple carbohydrates or even sugar contained in fruit.

A diet product with aspartame or any type of artificial sweetener affects the brain the same way as refined sugar. Any type of sugar or sugar substitute causes the brain to stimulate the pancreas to release insulin which may raise cortisol levels if you get hypoglycemic.

This prevents your body from burning fat. You do shake-meal-shake for a total of 5 more days.

Days 10 & 11

Days 10 and 11 you do two more days of cleansing repeating what you did on your first two cleansing days. You are going back into intense fat burning.

Get ready to be shocked again when you get on the scale and weigh yourself on day 12 after these last two days of cleansing.

Clinical Study

In a clinical study done by the company, the average weight loss for women was 7.2 lbs and 8.3 lbs. for men on the 11 day cleanse. Although results may vary, people are astounded at these average results.

Prepare yourself to be shocked!

Ask yourself when was the last time you lost 7 or 8 pounds in weeks let alone 11 days. Again, it is not water weight loss. How motivated would you be to continue if you just experience these average weight loss results?

This nutritional cleanse program is not an 11 day bandage!

What's next for those of us who have more weight to lose or for those who like the idea of cleansing more?

What is next? The Race to Maintenance: It gets easier and easier unlike a diet...

We recommend the race to maintenance program, because after only 11 days, your body will have trouble maintaining fat burning mode. During the next 30 days, on your shake days, you must increase your calories. In order to maintain this high fat burning intensity your body now requires more fuel. Thus, unlike a diet, we are increasing the calories in conjunction with the massive amount of nutrition; nutrients and minerals provided in the Isagenix system to maintain fat burning.

After the first 11 days, on your shake days you will enjoy a shake for breakfast, a healthy lunch of 500 or 600 calories, a healthy dinner of 500 or 600 calories and your last meal of the day will be a shake. We are asked all of the time:

Do I have to have a shake as my last meal of the day?

The answer is "yes" because your body requires the special blend of enzymes, nutrients and trace minerals in order to maintain fat burning. If you reduce the amount of food on your shake days during this 30-day period, you will slow the body's rate of fat burning and you can slow the body's metabolic rate (the rate at which we burn calories in the first place), and you may experience a plateau in weight loss...if weight loss is your goal. Another reason it is recommended that the last meal of the day be a shake is to keep carbohydrates down so that it does not interfere with HGH production and we do not need a lot of calories at night before we go to bed. The shake does not keep the body in ketosis.

BACK-TO-BACK CLEANSING PROGRAMS

The reason the optimum program is to do back-to-back cleansing is to put you in a more permanent state of fat burning that cannot be achieved by simply doing an 11-day cleanse.

It is of the utmost importance that you follow the diet plan recommendations and you do not limit your calories and try to keep your calories at less than 40% carbs. Choose from the list of recommended foods, fats and complex carbohydrates that provide your body with the proper fuel to continue burning fat. At the end of your 30 day race to maintenance you will be in a more permanent state of fat burning.

Simply put, in order to increase your metabolism you need to increase the amount of calories. The calories must be the right kind of calories. The calorie recommendations that we are making as part of this program will help you. These recommendations are for the right kind of protein, fats and complex carbohydrates. These are the best recommendations for fat burning.

MAINTENANCE

At the end of your race to maintenance, it is still important to maintain the recommended amounts of the Cleanse for Life (aloe vera) and IsaLean Shakes from New Zealand to provide the necessary nutrients, vitamins and minerals to continue fat burning.

Everyday Cleansing is so important.

Everyday cleansing is recommended that you do a minimum of 2 ounces of Cleanse for Life drink each morning along with a shake. If you want to do another 2 ounces of Cleanse for life at night that is even better. The reason is that the everyday toxins and impurities that we are exposed to need to be cleansed continuously. The two day cleanse is called a deep cleanse and it is to get to those deeply embedded impurities that are trapped in your fat cells. It is important that you continue to cleanse so that you can keep your body clean on a continuous basis.

It is very important that you continue to select from the recommended foods that are a part of this program. However, it does not mean that you cannot have some of the pleasurable foods you have become accustomed to (i.e. pizza, ice cream, alcohol, etc) everything in moderation.

People ask all-the time; do I have to be on this for the rest of my life? And I would ask them this question. Why wouldn't you want to put the world's first perfect food in your body each morning?

What else could you possibly put in your body that would contain all of these wonderful ingredients including the trace minerals and in the case of the shake the perfect blend of clean amino acids which are the building blocks of the body. It is also in the right proportions:

40% Carbohydrates

30% fats

30% proteins

Why wouldn't you start your day with arguably the world's most perfect food?

And, if you find yourself craving any of these foods or if you become fatigued or if you feel overwhelmed or become depressed, that is a warning sign that you have gone back into sugar burning mode. If that occurs, we recommend that you immediately go back on just one 11-day program and that should return you back to fat-burning mode.

PLATEAUS

The reasons people hit a plateau are:

1. The body may have stopped burning fat. You may have unknowingly eaten simple carbohydrates, refined sugars or artificial sweeteners.
2. You may have reduced the calories too low causing a famine mode.
3. The body may want to stay in a state of equilibrium which means it will retain fluid for a while until it decides that it needs a new set point for its equilibrium and then it will dump the excess fluid.

EXERCISE

The other very important thing is exercise. The number one recommendation for exercise is to walk a minimum of 30-60 minutes every day, preferably in the morning, to promote fat burning. If you can only walk for 15 minutes, walk twice a day for 15 minutes initially; then build yourself up to 30 minutes. Walking for 60 minutes is ideal. If you have a trampoline, 30 minutes of jumping is also a great way to exercise.

In summary, the cleansing program is designed to allow your body to function the way it was designed to and that is to burn fat for energy. This is not a weight loss program; that is a side benefit of cleansing.

I tell people all the time, do not do this program to lose weight, do it to gain long term optimal health and wellness. That is the thing that everyone is looking for.

Wellness is the concept of this program and it is enhanced by cleansing.

It is only through the continual burning of fat that you will achieve and maintain your long term health, wellness and weight release goals.

It is important to note that this program does not cleanse you. It is only the rare combination of ingredients including the trace minerals along with this specific two days of cleansing with no solid food that allows your body to cleanse itself.

It is only your body that can cleanse itself..

John Anderson, this genius in nutritional science has moved the science of nutrition 500 years into the future!

(Please see attached article on nutrition for the 21st Century and beyond)

21st Century Nutritional Science
Nutritional Technology for the 21st Century©

By: Peter Greenlaw 5-26-09

Why nutritional cleansing is needed now more than ever.

Let me begin by saying that nutritional science has come a long way in the last 50 years. Pioneering work by Dr. Linus Pauling and his use of vitamin C in treatment opened many nutritionists' eyes up to the beneficial effects of nutrients on the human body.

Today there are hundreds of nutritional companies that make everything from super juices like noni, mango stein, aciai berry, and others.

There are also a number of companies that make antioxidants from Glutathione to CoQ10. There are hosts of companies making vitamins A's, B's, C's and any number of individual nutrients. Many of these individual nutrients have positive effects on very specific locations or specific tasks for example: circulation, cell division and inflammation.

There are also many cleanses that are organ specific like: liver, colon, gall bladder and parasite cleanses.

The concern I have is that nutritional science has gone as far as it can go in improving the quality and the efficacy of individual nutrients. I've seen these nutrients called, single point of reference solutions.

This means that most nutrient formulations are created to deal with a specific need or concern in the body. My question centers on a very specific and prominent fact; the body is a "system" and a complex system at that.

Introduction to the system

"Your Body"

The body like a car has a fuel requirement, cooling and heating, and most importantly it has a need to keep all of these various parts clean. You certainly can-not drive your car indefinitely and never change the air, gas or oil filter. More importantly the oil in the car needs to be changed every few thousand miles or else the engine will seize up. If you put the best gasoline possible in a car with a dirty gas filter the gasoline is less effective. If you do not change the oil at some point, all of the other systems will be rendered useless when the engine seizes up because of dirty or no oil. Say you have your filters clean and have changed your oil. All of a sudden you get a flat tire. Does the fact you have clean oil and filters help you with the flat tire? No, because the car is a system that depends on the optimum contribution of many individual parts that must all work in harmony together in order to get the car to run well for the long term.

It's not how fast you go; it's how well you go fast.

The body is similar to a car in that the body is a system.

So, cleansing the liver when you have clogged arteries does not help you that much. No, you need all of the individual organ systems to work in conjunction with the overall system called the body.

Quote: "The average person consumes one gallon of neuro-toxic pesticides and herbicides each year by eating conventionally grown fruits and vegetables."

Source: Alavanja, M.C. J.A. Hoppin and F. Kammell, 2004 Health Effects of chronic pesticide exposure: Cancer and neurotoxicity. Annu rev. Public Health 25:155-97

(This is with people eating much less than the eight to ten servings they should be eating!) Remember, pesticides work because they are neurotoxic to pests; they attack their nervous system.

Source The Ultra Mind Solution by Dr. Mark Hyman M.D.

If you become too low on glucose (sugar) you go in to hypoglycemic shock and you will become disoriented and unable to make decisions. If you were driving a car you would cause dire consequences for you and others on the road.

If you do a colon cleanse but are unable to dislodge the impurities and toxins that are stored in your fat tissues you still have a body that is not in a state of wellness, it is in a state of sickness.

Let me give you another example from medicine as we have very few general practitioners' who can see this big picture anymore.

Medicine is now dominated by specialists like: internists, cardiologists, gastroenterologists, neurologists, dermatologists and many specialist surgeons who do brain surgery, back surgery, cardio vascular surgeons and many more.

This in essence proves that the body is a system that requires specialists to deal with all the sub-parts and all of these specific organ systems that make up the overall system of the human body.

The point is that the system called the body has many, many individual requirements for it to function. It needs different kinds of fuels (nutrients) for the diverse organ systems, it needs most importantly water for cooling and for the carrying out of the complex neurological processes in the human body.

Many people are unaware that the human body is 75% water. The brain is 85% water and the blood is 94% water. You can take all the vitamins, minerals and nutrients you want and yet most people are deficient in the simplest and most abundant nutrient on earth; that is clean water. There is a great book written on this topic called "You are not sick you are thirsty" by Dr. Ferdoon Batmanghelidj

For example, if you lived on a diet of just apples, would that supply the system with all that it needs to function in a state of wellness long term? The answer would be probably not.

Would you put oil in the gas tank, or would you put gas in the engine block? If you did, the car would not run at all.

So, here lies my concern for the state of nutritional science today.

Nutritional science has created these incredible and predominantly single point products to deal with a specific area of concern and not the whole "system".

Although many of them have demonstrated good results on specific things single point solutions for a system simply do not address the real challenge.

Einstein once said, "You will never solve a complex problem using the same thinking that created the problem in the first place. In order to come up with a solution you have to think differently."

Therein lays my dilemma with conventional nutritional science. They have focused on improving single point solutions and missed the real problem in dealing with the total system; something the ancient cultures knew. Look at Ayurvedic medicine and or Oriental approaches like acupuncture.

Until now!

John Anderson, a modern day genius and pioneer in nutritional science has worked for over 28 years formulating and manufacturing over 2200 nutritional formulations. Anderson had a major breakthrough. He spent his career collaborating with other great minds on nutrition to create single point solutions that were some of the very best the world had ever seen.

Through a personal medical crisis that nearly took his life, Anderson was forced to think differently or die. He did not throw away all his prior knowledge but instead faced with the prospect of losing his life, he was able to change nutritional science forever and move it into the next century and beyond.

John Anderson, through trial and error created a revolutionary new approach to nutritional cleansing technology which the ancients had practiced for centuries.

So what does that mean?

Anderson was able to combine over 270 individual nutrients and create what some clinical nutritionists have said is arguably the most nutrient dense food on the planet.

Many may argue that this is the world's first perfect food.

In short, similar to the marvel of atomic energy, when man learned how to harness the power of the atom by splitting it and unleashing energy the likes of which the world had never seen. Anderson figured out how to take massive amounts of nutrients and condense them in to relatively few calories.

Anderson created the world's first nutritional super calorie© formula of exactly the right combinations and proportions of nutrients. Everything the body needs nutritionally in one formula to deal with the body as a system and not a single point solution.

It is also important to note that Anderson discovered a process many years ago for the extraction of ionic trace minerals and rare earth elements. These trace minerals were trapped in the earth over 235 million years ago when the dinosaurs roamed the earth.

John Anderson was known as the, "mineral man", as he supplied these trace minerals to hundreds of nutritional companies over the past 28 years. However, he had never put more than 70 rare trace ionic minerals and rare earth elements in any formula he had ever sold, until now.

Of all the nutrients you can supply the body with, trace minerals are the single most important. Trace minerals are important in 95% of all functions in the human body. Vitamins have minimum value in the human body without trace minerals. Yet trace minerals are vanishing from even organic food sources. Of the 270 nutrients he used in creating this ground breaking nutritional cleansing technology, trace minerals are the most important

In addition, he figured out how to use these trace minerals and 270 nutrients in a specific cleansing system that allowed the whole body to cleanse at one time. "At this time there is simply no other nutritional cleansing technology like this on the planet".

This breakthrough cleansing marvel opened the flood gates on wellness much like splitting the atom unleashed atomic power.

For the first time ever the body was now being given everything it needed not just single point nutrients or even small concentrations of nutrients. No, for the first time the body was able to cleanse, replenish, and rejuvenate it-self all at once.

The results people are experiencing have never been seen before and could have never been achieved by a single point of reference nutrient product.

It is true that we have multi-vitamins; however, multivitamins pale in comparison to the 270 ingredients including more than 70 trace ionic minerals and rare earth elements in which the trace minerals exist.

Note: John Anderson just created a patented system for the concentration of ionic trace minerals and for the first time ever Alfalfa ionic minerals. Prior to this patent, the highest concentration of trace minerals was 1.5% the volume of the liquid the trace minerals were suspended in for consumption.

John Anderson's new patent now allows for a concentration of 3% trace minerals, double the amount of any other mineral product on the market. This breakthrough now provides even more support to the body as a system and not a single point of reference.

Like I said before if you have a flat tire, high octane fuel will not help the car no matter how good the fuel is. The kind of gas you have in your tank is irrelevant for this problem.

A huge contributing factor in limiting the effectiveness of the single nutrient approach is toxicity. Toxicity affects all our systems. Toxicity is not something that a single point solution can deal with.

Cleansing the colon is helpful but there are toxins around the: brain, liver, kidneys and heart. Toxins also exist in the: blood, lungs and fat tissue.

We must deal with the whole body. A clean colon is good, but in essence now you have a flat tire and the system begins to be compromised. A clean colon does not deal with toxins that have been shown to be prolific throughout the body in major clinical studies conducted by Mt. Sinai medical school, National Geographic and many other reputable scientific groups.

And now you understand the dilemma with treating the whole body with a single panacea solution.

I believe Einstein would applaud John Anderson for thinking differently. Anderson created a solution by thinking out of the box when he was forced with a life threatening condition.

Again, I want to say that it's not that these wonderful single nutrients or small combinations of nutrients do not work it is just that they do not address the whole body. The last time I checked we live in our whole body not an individual part.

Toxicity causes systemic problems, (the whole body) not just a single problem.

Arthritis for example is a breakdown of the entire system, circulatory and auto immune.

Here is a quote from, "Our Deadly Diabetes Deception", an article written by Thomas Smith:

"If you contract diabetes and depend on orthodox medical treatment, sooner or later you will experience one or more of its symptoms as the disease rapidly worsens. It is now common practice to refer to these symptoms as if they were separable independent diseases with separate unrelated proprietary treatments provided by competing medical specialists."

Again another example of how we are a system. They give the patient drugs to deal with the diabetes, but there are many other breakdowns in the system, "the body."

Source: www.quantambalancing.com/news/diabetes

Why does this nutritional cleansing technology represent one of the most significant discoveries in the history of mankind?

The reason is the body requires many different things at different times. It is the body's correct balance of these 270 specific nutrients and trace ionic minerals that make the nutritional cleansing technology invented by John Anderson such a break-through in nutritional science.

Specific nutrients prepared in a specific way, consumed at specific times, over a duration of time with appropriate hydration (water) is critical.

You need a nutritional cleansing system to handle a dirty body; one that can take on the effects of a system level problem, because your body is a system.

In summary the reason that this nutritional cleansing technology is something that has no equal is because there is no other solution currently available that can deal with the body as a whole.

And, that is why nutritional cleansing needs to be part of every single person on planet earth's daily fight for optimum long term wellness.

There simply is nothing else like this cleansing technology on earth, and although single point solutions are helpful in specific applications; specific point nutrients cannot deal with the systemic problem of maintaining the overall wellness of the human body which is very complex system.

Up to now, no single product has ever been formulated to deal with the total body at once.

And this is why this cleansing technology is so unique. No other single product can touch the overall effect on the human body that this cleansing technology can.

Related Articles on Ghrelin

Ghrelin is a [hormone](#) produced mainly by [P/D1 cells](#) lining the [fundus](#) of the human [stomach](#) and epsilon cells of the [pancreas](#) that stimulates [appetite](#).^[1] Ghrelin levels increase before meals and decrease after meals. It is considered the counterpart of the hormone [leptin](#), produced by [adipose tissue](#), which induces satiation when present at higher levels. In some [bariatric](#) procedures, the level of ghrelin is reduced in patients, thus causing satiation before it would normally occur.

Ghrelin is also produced in the hypothalamic [arcuate nucleus](#), where it stimulates the secretion of [growth hormone](#) from the [anterior pituitary gland](#).^[2] Receptors for ghrelin are expressed by neurons in the [arcuate nucleus](#) and the [ventromedial hypothalamus](#). The ghrelin receptor is a [G protein-coupled receptor](#), formerly known as the GHS receptor ([growth hormone secretagogue receptor](#))

The Hunger Hormone

Controlling Ghrelin May Be Key To Curing Obesity

Aug. 13, 2003

Scientists are studying rodents to learn about the human appetite. And they're trying to find out why the hormone ghrelin makes a mouse so hungry.

(CBS)

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Are you eating right? See the government's guidelines, calculate your body mass index and quiz yourself on healthy food choices.

(CBS) The United States is the fattest nation on earth.

Two-thirds of Americans are overweight. Nearly 59 million are considered obese, putting them at risk for diabetes, heart disease and high blood pressure.

We're all casualties of a battle between our genes and our fast food culture. And now, it turns out we may be casualties of a hormone called ghrelin.

Ghrelin is the hunger hormone. It's made in the stomach, and it tells the brain when it's time to eat. Ghrelin doesn't cause obesity, but scientists think taming it might help us get our scales back in balance.

They're also investigating an opposite hormone – PYY – that makes you feel full.

So, as 60 Minutes II asked this spring, what if we could take a drug that would shut off our ghrelin or boost our PYY?

In labs around the country, the race is on to find out.

Correspondent Vicki Mabrey reports. The search for a billion-dollar solution to fat begins with mice.

In a lab at the St. Louis Veterans Affairs Hospital, and in others like it, scientists are studying rodents to learn about the human appetite. They're trying to find out why the hormone ghrelin makes a mouse so ravenous.

We observed one illustration of ghrelin's power. A mouse was injected with the hormone. Just 15 minutes later, he was absolutely wild for food, even though he'd already eaten enough to be full.

Scientists are finding that ghrelin has the same power over people.

That discovery was made in part through the experience of a man named Jim Rudolph, who used to weigh 460 pounds.

Taking a stroll along Seattle's waterfront, Rudolph says,

"I'm so happy to be able to walk like this today." Not long ago, he couldn't walk, drive or fit into one airplane seat. He also needed an electric cart to get around.

Then, a pair of size 65 pants was a tight fit. He saved them to

CBSNews.com Front Page |

show 60 Minutes II that he can now fit into one of the pant legs.

Four years ago, Jim Rudolph underwent gastric bypass surgery. Such stomach reduction procedures are on the rise. Last year alone, 60,000 obese Americans went under the knife. He lost 195 pounds after his procedure. But that's not surprising, since gastric bypass reduces the stomach by 95 percent.

What is surprising, scientists say, is what Rudolph's surgery revealed about appetite, and about the only hormone known to trigger it. The surgery seems to have killed the ability of Jim Rudolph's body to produce ghrelin, or at least it put that function to sleep.

"I don't seem to get really hungry," he says. "It's not necessarily hunger like the old hunger, going, you know, 'Feed me.'" Dr. David Cummings, an endocrinologist at Seattle's Veterans Administration Medical Center and the University of Washington, studied Rudolph and four other gastric bypass patients.

His team's findings have captured the attention of scientists around the world, and have spurred the race to find a less drastic way than gastric bypass surgery to block ghrelin.

Recently, Cummings showed off a test tube. "At the bottom of this tube is a little tiny fleck of stuff, which is pure dried ghrelin," he says.

What would happen to someone who ate that tiny bit of ghrelin?

"You'd want to eat," says Cummings. "You'd want to eat right away."

Japanese scientists discovered ghrelin in 1999. A year later, American researchers found that it drives appetite.

"Ghrelin is the first and only yet-described appetite-stimulating hormone," says Cummings, explaining that ghrelin is mainly created in the stomach, where it circulates in the blood, eventually sending a message to the brain to stimulate appetite.

Cummings and his team studied ghrelin levels in obese dieters and in people of normal weight. They found that people who lost weight through dieting actually had elevated levels of ghrelin - not just occasionally, but day and night, whenever it was measured.

"Implication is that this is one of the ways in which the body fights against weight loss," says Cummings, which might help explain why millions of yo-yo dieters can't keep the weight off. One of those dieters is Hillary Bargar Strackbein, a Connecticut prosecutor.

"I'm a lifetime member of Weight Watchers," she says, "and I'm a successful Weight Watcher who lost about 90 pounds on Weight Watchers [and] gained it all back."

But that's not all. She also went on the Jenny Craig diet: "I lost about 100 pounds, gained it all back ... then there's the Atkins diet. I was on a grapefruit diet, soup diet."

Basically, she's been dieting pretty much all of her life.

Three years ago, Bargar Strackbein tipped the scales at 255 pounds. At that weight, she was ashamed to appear in court. Most recently, she put herself on a virtual starvation diet, eating only one 700-calorie meal a day. By living mostly on soy burgers and omelet's, and by exercising daily, Bargar Strackbein lost more than 100 pounds.

Even so, her weight kept creeping back up, so she contacted Cummings about his research.

What he told her was actually a relief: "He said, 'The reason you feel your body's trying to gain weight back is because it is. Your body is against you.' It was the first time I ever saw a doctor or anyone say, 'You're right. I believe you. You're not bingeing. You're doing what you're doing and it's still not working right.'"

So, is Bargar Strackbein fighting a losing battle? Cummings says she may be: "I have to say that just playing the numbers; I would predict that she will not be able to maintain that weight loss, but I encourage her to try."

He says that's because each of our bodies has a genetic set point. In effect, your genes establish your weight range, and put you in a body weight ballpark.

"Within that ballpark, you can slide up or down about five or 10 percent, with dieting and exercise and the use of a few available medications we now have," says Cummings. "And for most people, not much more than that is attainable or sustainable." So, are we battling biology or bad habits? British obesity researcher Stephen Bloom says both.

"We are machines designed to live through famine," says Bloom. "In the days when we evolved, there would be a good

harvest for six years and a bad harvest in the seventh year. And the only people who lived through the seventh year were the ones that were overweight. So, if you were able to watch your weight very nicely, you aren't here anymore. We are survivors of the obese. All we need is a plentiful supply of food and we gain weight. That's the way we are made."

At London's Imperial College, Bloom and his team are also studying ghrelin. But recently, they began experimenting with another hormone called PYY-336.

You could almost call it the anti-ghrelin because this hormone makes you feel full.

In Bloom's study, hungry human volunteers were given PYY, and then offered an all-you-can-eat lunch. Researchers measured the leftovers, and found there was a lot left over. In fact, the test subjects ate one-third less for the full 24 hours after receiving PYY.

The theory is, ghrelin goes to the brain and hunger sets in. "The ghrelin's disappeared after a meal, but the hormone to stop you eating, PYY, has risen in the bloodstream," says Bloom. "And as long as it's high, it stops you feeling hungry."

The evidence on ghrelin and PYY has so convinced Bloom that he's practically given up on the common prescription of "eat less, exercise more." He now says obesity has to be treated like any other illness, with medication.

"The advice we give people does not seem to work," he says, "so the answer is, as we have with blood pressure, take a tablet. As we have with cholesterol, take a tablet. So, I fear, with overweight, we have to damp down appetite. We can't actually control ourselves. We have to accept that as a fact."

A diet expert advocating a magic pill for losing weight? "I hate it," says Bloom. "But I can't think of anything better."

A magic pill that is safer and more effective than what is on the market now would be worth billions of dollars to pharmaceutical companies.

60 Minutes II got a rare look into a laboratory at Eli Lilly, where Dr. Mark Heiman, whose team first established that ghrelin made rodents hungry, is leading the search for a ghrelin blocker.

He showed us a sample of just one of the substances being tested that may be a potential weapon for keeping weight off.

The ingredients of that powder are top secret, of course. And with the stakes so high and competition so fierce, drug manufacturers almost never allow cameras in.

Under a microscope, Heiman showed us ghrelin cells in the lining of the stomach. The fact that ghrelin is manufactured in the stomach, not in a riskier area like the brain, makes researchers hopeful that they can come up with a blocker. But don't look for that magic pill soon. "This is a long, long process," says Heiman. "It would probably be about ten years before it'll be in the pharmacist's shelf." Doctors Heiman and Cummings hope to test the ghrelin blocker on people like Matt Heineman, 29, who suffers from a rare genetic disorder called Prader-Willi syndrome.

People who suffer from Prader-Willi suffer from slowed development, severe obesity and insatiable appetite. Matt's mother, Janalee Heinemann, says it's a struggle to keep them alive.

"They'll just eat till they die. I mean, until they're so obese they can't breathe, that they have right-sided heart failure, that they have diabetes, etc.," she says.

In other words, they literally eat themselves to death.

It's a condition, she says, and that forces parents to act like jailers. To fight his uncontrollable urge to eat, Matt's mother locked the refrigerator and cupboards, and monitored Matt wherever he went.

Even now, as an adult, Matt has to live a "safe house." 60 Minutes II visited one outside St. Louis, where everything in the kitchen is kept locked and counselors search residents for unauthorized snacks and weigh them twice a day to make sure they're not sneaking food.

Cummings has found that ghrelin levels in people with Prader-Willi are off the charts: "We examined ghrelin levels in these people and found them to be among the highest that have yet been recorded in any humans."

As one sufferer puts it, it feels like piranhas are in your stomach all the time.

The thinking is that if a ghrelin blocker can cut the appetite of people with Prader-Willi syndrome, it could help others with less severe obesity problems.

But don't get your hopes up yet. This isn't the first time the Holy Grail of weight loss has appeared to be close at hand.

Some earlier remedies have led to serious and sometimes deadly side effects.

The St. Louis researchers injecting mice with ghrelin are looking at other aspects of the hormone. Early evidence indicates ghrelin also may affect memory as well as growth and appetite. A ghrelin blocker could have an effect on all of those things.

So, is there ever going to be a magic pill that is going to make us as thin as we want to be?

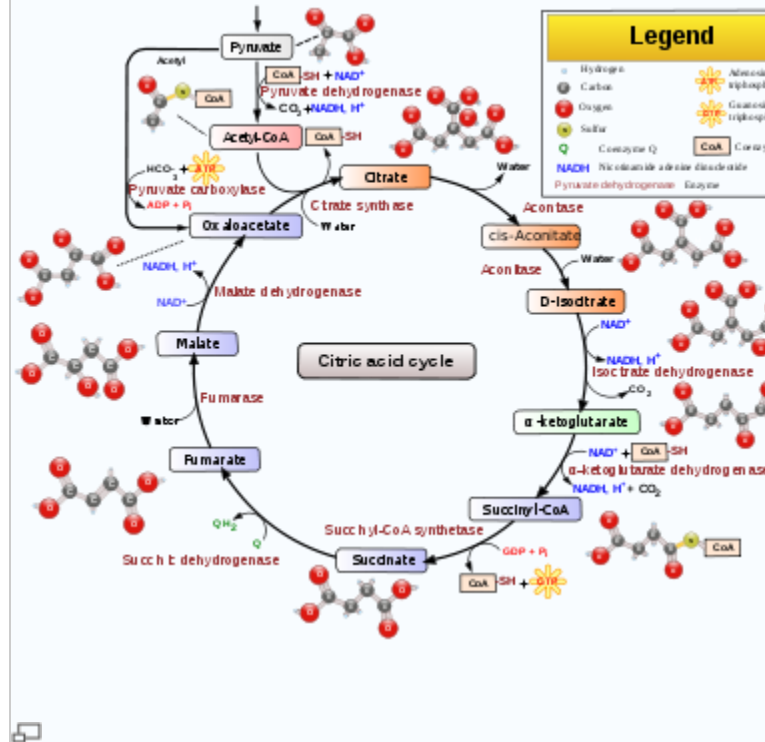
"I don't think that there's ever going to be a single medicine that would prove to be the magic bullet for all people," says Cummings. "But I think there's reason for hope that we may have, one day, half a dozen magic bullets that can be used in combinations to help people with their body weight in much more powerful ways than we now can do."

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Citric acid cycle

From Wikipedia, the free encyclopedia

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Overview of the citric acid cycle

The **citric acid cycle**, also known as the **tricarboxylic acid cycle** (TCA cycle) or the **Krebs cycle** (or, rarely, the **Szent-Györgyi–Krebs cycle**), is a series of [enzyme-catalysed chemical reactions](#) of central importance in all living [cells](#) that use [oxygen](#) as part of [cellular respiration](#). In [eukaryotes](#), the citric acid cycle occurs in the matrix of the [mitochondrion](#). The components and reactions of the citric acid cycle were established by seminal work from both [Albert Szent-Györgyi](#) and [Hans Krebs](#).

In [aerobic organisms](#), the citric acid cycle is part of a [metabolic pathway](#) involved in the chemical conversion of [carbohydrates](#), [fats](#) and [proteins](#) into [carbon dioxide](#) and [water](#) to generate a form of usable energy. Other relevant reactions in the pathway include those in [glycolysis](#) and

[pyruvate oxidation](#) before the citric acid cycle, and [oxidative phosphorylation](#) after it. In addition, it provides [precursors](#) for many compounds including some [amino acids](#) and is therefore functional even in cells performing [fermentation](#).

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