Reversing Type 2 Diabetes

Part 2

I want to welcome you to this second webinar in our Reversing Type 2 Diabetes Clinical Course. Our first webinar on reversing Type 2 diabetes, we spent quite a bit of time talking about what diabetes actually is and doing quite a bit of myth busting about the root causes of diabetes and the effects of the medications and the challenge of really reducing insulin and the opportunity to help our clients to not only better manage or suffer less from the side effects of diabetes, but to really truly heal it. Certainly my greatest desire in this entire course, and certainly tonight in the webinar as well, is to inspire all of you to know, to believe that you can help your clients to completely be rid of diabetes.

I will share with you that, certainly in terms of my practice; I have learned that this is one of the highest impact ways of creating wildly satisfied clients. I'm going to give you some case studies tonight - 2 in particular - that ended up being just fantastic referral sources for me. This is a really, really powerful opportunity for you to play a major role in not only helping one individual to overcome their health's challenges, but to help everyone they know to be inspired that diabetes is not a life sentence. It is something that can be overcome.

To begin with, just a few reminders about our clinical courses. As always, I encourage you to take advantage of the online Q&A bulletin board. Many of you have been using that for this course. I'm doing my best to keep up with the questions, but please do keep them coming. There are some very creative ones and, as we move further into the program, some really wonderful insight is being shared in the answers. I will be posting another set of handouts related to the second course or second webinar in this course tomorrow and then throughout the rest of the week as well. As always, if you have any trouble with accessing anything, don't hesitate to be in touch. I do want to encourage you to take the opportunity to plan now to maximize your learning from this webinar.

For those of you in the semester program, you know that the courses come pretty quickly, one right after the other. I encourage you to go ahead and take a look at your schedule and to plan an opportunity on your calendar to view this webinar at least one more time, preferably twice, in the next 15 days. The repetition, the opportunity to review, and emphasize your notes really helps to lock in the learning.

Today's agenda for this second webinar is diving into the detail of the diet I recommend for reversing Type 2 diabetes. As I mentioned in the first webinar, there are a number of different "diet plans" that have shown to be quite successful in reversing Type 2 diabetes. They do have certain tenet in common. We're going to review that and then I'll spend a bit of time getting into the detail of the plan that I have found to work very effectively. Then we'll move into talking about the supplements that I recommend you take advantage of to help your clients to reverse their Type 2 diabetes. Lastly, I have 2 case studies that I am excited to present to you of actual clients of mine and the experience that they've had, and specifically what we used in order to help them to reclaim their health.

I want to start off with just a reminder of some of the basic principles we talked about in the first webinar. I'm not going to go through a lot of the physiology and the biochemical dynamics, but I will reference again a couple of slides that I think are key. I hope you make use of them in terms of making things simple for your clients. As we discussed many times, I think one of our most powerful roles as a health counselor is to simplify and help to reduce stress about medical or health concepts that individuals can be fairly confused and overwhelmed about.
The vicious cycle of insulin resistance has the vast majority of Americans eating a lot of refined carbohydrate foods, which triggers the production of a lot of insulin to try and manage that food load. Ongoing chronic exposure to high levels of insulin creates insulin resistance so that we have sustained high blood sugar which the liver tries to manage by storing extra body fat, but tissues can become poisoned by those high blood sugars and we start to get side effects, complications of diabetes or insulin resistance. The biggest reason I believe why the average American tends to overeat truly out of hunger, feeling overly hungry, too frequently hungry, but also feeling weak and tired, low energy. Of course, feeling that low energy exacerbates the craving for more of those refined carbohydrate foods in order to get that short term energy boost. There are certainly other factors that exacerbate all of those drivers. We talked about a number of these in our first webinar. Just as quick refresher, this is the dynamic that the vast, vast majority of individuals you will support with Type 2 diabetes are working to overcome.

As we discussed, the long term healing approach for Type 2 diabetes is not continuing to emphasize more insulin, whether it's by allowing the body to continue to produce more and more insulin to support the diet or via diabetic medications, especially supplemental insulin, as a way of trying to manage the burden because, as we discussed last time, this sets off a very toxic, chronic, downward spiral that affects eventually all of our body parts. Instead, what we need to do in terms of reversing Type 2 diabetes is to really give those insulin resistant cells and our poor, overworked pancreas a serious break from this downward spiral. As we discussed last time, my approach for that is to emphasize whole, natural foods that will not only help to produce a lower glycemic response from the body, but also changing the genes that we express, preferentially switching us over into a genetic expression that supports lower insulin production, higher insulin sensitivity, better control of blood lipids, and lower inflammation.

The primary supplements we're going to talk about are really about certainly trying to fill in some of the nutrients that tend to be depleted in diabetics, but also about reversing the insulin resistance. I'm going to talk about a number of them. Most of you are probably going to be shocked at just how much research there is into this natural substances that are incredibly effective. Alas, most of these are herbal extracts or single nutrients that you can't patent, and so there's not a lot of profit motive behind developing and touting and marketing these natural solutions. I hope to really empower you about those in this webinar. Then addressing factors that are exacerbating the diabetes. We'll talk about that as well.

Let's revisit the diet to reverse diabetes. As we discussed last time, there are a number of different eating plans, physician-sponsored plans that have been shown to be very effective in reversing diabetes. Certainly, you may have encountered what I have, which is confusion in my clients who are looking for the one right answer, the one magic way of overcoming diabetes. Rather than mincing details or trying to come up with the one right answer, I think it's powerful to look at what all of these eating plans have in common because they have quite a bit in common. The focus on that whole, unprocessed, nutrient-dense foods, or what I call whole foods instead of broken foods, or, more specifically, things that I tell my clients that their great grandmother could have eaten on a regular basis. Obviously, this removes 99% of the available processed foods.

Emphasis on eating as much organic as possible in order to get rid of the toxic burden of chemicals coming in with our food and getting as much nutrient density as possible. The removal of all sugars and sweeteners and stimulants and, for almost all of the plans, the full removal of all grain flours as well, not just gluten-based flour, not just refined flours, but all grain flours. Then anchoring the daily eating with low glycemic plant foods, obviously because it's a real low glycemic way of getting carbohydrates, but also very, very nutrient-dense;
particularly important with diabetes in terms of countering the high oxidative stress that's prevalent in diabetics that we talked about last time.

Now these eating plans vary quite significantly in terms of the amount of protein and fat that they allow. I think that's a wonderful example of, once again, the fact that we are all different and that there is not a magic way of eating. While one person can thrive on a good low-glycemic, vegetarian eating plan, someone else is going to feel very sick and tired doing that and not well-nourished. There's really an opportunity to experiment and explore with your clients. I think, as I discussed last time, the most important tenet for any eating plan that you give your clients is that it's sustainable for them. What works for one person is certainly not going to work for another person.

In the arena of carbohydrates, regardless of what kind of carbohydrate it is, individuals have greater needs for carbohydrate restriction when they're trying to reverse diabetes or to cure insulin resistance depending on a few different things. First of all, how advanced their insulin resistance has become. If they have been insulin resistant or truly diabetic for years and years then it's going to take so much more substantial restriction in order to, if you will, shock the body out of its habitual pattern. There's quite a bit to unwind. Their genetic insulin secretion. Some people just genetically produce more insulin or are prone to more aggressive insulin secretion. I can certainly relate to that. It runs in my family. You may look into your own family or delve into the family of your clients and really ask whether insulin resistance or obesity or diabetes is common. Does it appear to have a genetic predisposition?

Then their overall activity levels. Generally speaking, carbohydrates that we don't burn for fuel within 2 to 3 hours of consuming them are going to be stored primarily as fat. Certainly individuals that have very active lifestyles, not just exercising regularly but very active lifestyles. Maybe they're not sitting in a cubicle all day long, but they're actually out and about and moving and using their body as part of their job. They're going to have the ability to use much more carbohydrates effectively without storing body fat and without over-secreting insulin. Needs, in particular, for the dense carbohydrate foods, the dense ones - that is grains, legumes, and fruits and, to some extent, starchy vegetables, but mostly grains, legumes, and fruit - is going to vary widely.

I do want to say a specific note about fructose. We discussed in our first webinar that when blood sugar surges, what is surging is glucose, very specific sugar. Fructose, as we discussed, is a very particular type of sugar that is only metabolized in the liver. No other cells in your body can actually metabolize fructose, only your liver can. The liver can easily become overwhelmed with metabolizing fructose. This is what leads to the high incidence of non-alcoholic fatty liver disease that is associated, highly correlated with Type 2 diabetes. Some individuals have more efficient liver ability to process fructose, some individuals have a higher need for it based on their muscle usage, some people simply can't metabolize it well at all. That individuality is going to determine how much fruit a client can enjoy and still reduce their insulin. I'll talk about a couple of examples of that in my case studies as well.

In terms of nutrient intake, it's very important to remember that as much as we think about fructose and being associated with high fructose corn syrup, stale sugar and high fructose corn syrup have pretty close to the same amount of fructose in them. Fructose is not particularly toxic because just the percentage of fructose, because of the toxins that are used to process it and it tends to have residual mercury in it and because the fructose is free. It's not bound to fiber like it is in fruit, and so it is absorbed much more rapidly, giving a rapid burden to the liver, but all sugars, all sweeteners are a burden for fructose. For those of you who maybe have clients who are really focused on the natural sweeteners. It's important to remember that Agave nectar and honey actually have
much, much more fructose than high fructose corn syrup. Agave nectar is typically 85% to 90% fructose. This is not a healthy alternative. As we discussed before, all sweeteners contribute to insulin resistance and the fat storage dynamics, the inflammatory fat storage dynamics of diabetes.

When you're thinking about the right combination of foods to suggest to your clients who have this goal, you're really going to have to experiment with what really works for them. You're also going to have to think a little bit about what motivational tools can help them to make the choices that will serve them well very consistently. I have found that consistency is perhaps the most important thing in overturning Type 2 diabetes. It's not enough for people to improve their diet a little bit gradually over time. It really does need to be a wholesale, 100% commitment. I love this quote by Dr. Julian Whitaker: "There's no drug in the world that can make someone choose salmon and salad and vegetables over a typical fast food meal. They have to want it; they have to really want it." I have found that our world has cheerleaders, celebrating the positive, really encouraging the belief in our clients, the belief, the commitment that this can be done is crucial.

A key client message on that front is that, as we discussed last time, food is talking to our genes. There is a huge science now of nutrigenomics, which has really exploded in the medical research arena in the past two decades. As we learn more and more that certain foods turn inflammatory genes on and certain foods turn anti-inflammatory genes on. Generally speaking, the more natural and unrefined the food is, the better we're going to be. I've encountered this specifically in diabetes, a lot of resigned frustration or disillusionment or disappointment because people believe that somehow diabetes is just a genetic given. If their mother had it or has it or their father or their sister has it, "It's just a matter of time before I get it, and there's nothing I can do about it." That's absolutely not true. We may have a higher risk of the disease because of our genes, but we act our way into whether or not those genes get activated.

The message of hope is key. We need to be helping our clients to understand they need to stop eating these foods. There's a huge page of stimulants, chemicals, sugars, sweeteners, some more natural than others, but all falling in that category, all inflammatory, all counterproductive to the task of reversing Type 2 diabetes. Encourage our clients to eat more of this: more low glycemic, whole, natural, unbroken foods.

I shared with you in the first webinar my top 12 tenets for reversing diabetes. I'm going to speak to some of these briefly, but then I'm going to dive into a few of them in more detail where, in my experience, your clients may have a hard time adopting them. As I said in principle, the primary tenets are not eating processed foods, not eating flour of any kind. Obviously, that's going to include anything made out of flour, whether it's bagels or buns or crackers or cookies or chips or muffins or even so-called healthy, whole grain, organic types of things, all foods made out of flour: wraps, bread, tortillas. Just completely letting those go. My experience is that it's much easier to have people simply eliminate them than to try to manage them to a small, small amount. The average person deals much better with black and white guidelines, especially when they're beginning.

Obviously, no artificial sweeteners and no actual sugars or sweeteners of any kind. I'm actually very strict with this. None, zip, nada. I do encourage clients to use stevia, which is an herbal sweetener that has no glycemic effect at all or xylitol, which is actually an antimicrobial. It is a sugar alcohol that naturally occurs in some fruits and vegetables, but it has been shown to have little to no glycemic effect. It is not an artificial sweetener, it is naturally occurring in food. Unlike some other sugar alcohols like sorbitol or mannitol or erythritol, it does not give people gastrointestinal discomfort. I do introduce my clients, especially those who have a real sweet tooth, who are used to sweet foods, I introduce them to those options, but I encourage them to only use them as transition tools.
Ultimately, I think one of the most important things for people to experience permanent healing from diabetes is really to change their taste buds. We need to get to a place where we simply don’t need food to be so sweet, where we wean ourselves down, we change our expectations; we don’t expect foods to taste so sweet. The gift, the marvelous gift that I find pretty much all of my clients eventually experience is that the longer they are away from sugars and sweeteners, their taste buds change. Foods that used to taste bland to them tastes delightfully sweet - a carrot, a plain sweet potato, a red pepper, a roasted brussel sprout. These are foods that perhaps in the past were just a bit bland, but certainly edible. Now they take on this wonderfully sweet flavor simply because their taste buds have healed.

Another tenet that I emphasize quite a bit is eliminating alcohol and caffeine. As we’re going to talk a little bit about those in more detail, but really trying to remove people, micromanaging their energy and their mood with chemicals, which is ultimately why we use those, is to self-medicate. Vegetables, vegetables, vegetables because they are our most low glycemic food and the emphasis of having protein in breakfast every day. I believe the old adage that many of us, I’m sure, heard from our grandparents that breakfast is the most important meal of the day. I could not agree more. Our insulin cycling really begins with what we choose to have for breakfast. The average American is having refined carbohydrates and caffeine for breakfast, very little protein and, even more importantly, very little healthy fat. Finding some sort of breakfast solution that will work for each individual client is really key.

Now let me talk about some of these tenets in terms of what they would look like in a typical day. You certainly can use whatever tool you wish, but I have found that giving my clients a sample of what this might look like is really empowering because they can understand the tenets in principle that I just discussed, but when they start to actually think about how to implement it in their life, it can seem overwhelming. This is the type of step-by-step that allows them to achieve all of the tenets, including getting to bed at a reasonable hour, not eating 3 hours before bedtime, eating something every 3 to 3-1/2 hours, having a protein-anchored breakfast, really trying not to over-consume whole grains or fruit but just having limited amounts, but really anchoring the diet with a lot of vegetable nutrition.

One tenet that, if you’ve already looked at the handout around the food choices that you’ve seen, is I tend to allow my clients who are in control of their diabetes and on some level - meaning it’s not raging out of control - to allow them to have a square or two, meaning 1-inch square, of good quality, dark chocolate. For me, dark chocolate is something that is 70% cacao or higher. My experience is that allowing people to have that one thing gives them something to look forward to. This is an eating plan you’re going to ask them to implement for months and really adopt long term in principle as a healthy way of eating, but, obviously, our diet has to be enjoyable. I have found that very small indulgence, which truth be told has exceedingly little sugar in it - it’s almost all fat and fiber - gives them something to savor, which is particularly important for clients that have a really strong sweet tooth for whom this plan is a really drastic change.

I now want to talk through some of the tenets, the other tenets among the 12, in a little more detail. I’m going to do it by using some slides that might be helpful for you to use directly with your clients in terms of motivation or inspiration or just helping them to understand why a particular tenet makes a difference. The time that we have in our sessions with clients. Most of us spend 45 minutes or more with clients. We have time to really explain to people why we want them to do something. Why does it matter? Why does it work? Rather than just telling them what to do, we can appeal to their logic and they’re putting puzzle pieces together to understand what’s really going to help their body. That intellectual understanding I find is really helpful for motivation.
These 2 slides are things I very often emphasize with clients because the average physician out there is, unfortunately, telling clients, as we discussed, that diabetes is permanent and that the best they're going to do is to be able to make small, incremental changes to their diet to simply make the diabetes easier to manage, to keep it manageable with medication, for example, or to keep it manageable with the current level of insulin without having to increase it, just being able to avoid the debilitating complications. I'm much more in their face about this because, certainly, if people want to make small, incremental changes, that's fine. That's a choice. That's wonderful. That is just as valid choice as anything else, but they're still going to have diabetes. Nobody is going to reverse their Type 2 diabetes by making small, little changes step-by-step, maybe one a month, gradually over time. It is not going to happen because the momentum that gets behind this dynamic in the body is way too powerful.

Unfortunately, a lot of conventional medical media has led people to believe that things like switching from white bread to whole wheat bread or eating oatmeal every day as opposed to some kind of sugary cereal or diet soda instead of regular that these kinds of changes are going to unwind their diabetes. It's just not true. There's no science to say that, that has a remote chance of succeeding. While diabetes may still be easier to manage, the risk of cardiovascular disease is unaffected. It's still the same. On the other side of the coin, if individuals are willing to make very dramatic changes in their lifestyle all at once and then sustain it for 3 months at a minimum and then retain at least 75% of those - and we'll talk about which ones are most important - they can be not only cured, not only reverse the Type 2 diabetes, but be free of it for life.

I found that people who succeed and do this become so passionate. It's just fantastic to see. So passionate and inspired to share what they have learned and the hope the hope they know is real with everyone they know. Once they get through, generally speaking, the 3 or 4 months, if they can deal with the emotional drivers of what caused them to eat poorly in the first place, it really is quite straightforward to sustain.

I think one of the most common things that my clients challenge when I raise it is that artificial sweeteners are not helping. Generally speaking, most people have been led to believe that artificial sweeteners are a really good no sugar, no glycemic, no calorie way to try to lose weight and to try to improve diabetes. In reality, there's been quite a bit of research on this, not only on animals but, at this point, actually on humans, where we have found that consumption of artificially sweetened diet drinks, soda and otherwise, actually increases the likelihood of diabetes, increases the likelihood of Type 2 diabetes, increases the likelihood of cardiovascular events, and the whole collection of symptoms we call metabolic syndrome. There is both an emotional and a physiological component to that.

Because artificial sweeteners do not affect leptin, we can consume a huge amount of them along with a very high glycemic meal, such as the classic "I ate half a pizza and a liter of diet Coke" combination. That amount of artificial sweetener, despite all of the sweet taste that we're getting, is interfering with the activity of leptin, which is helping us to control our appetite and understand when we do not want to eat anymore. I also believe that the super sweet flavors that we get from artificial sweeteners do keep people addicted to needing things to taste sweet. Even if they feel like they're a stop gap for people, it's not helping them with a long term removal of sweet foods because the taste buds aren't changing.

I've given you a number of different references here. You'll notice throughout this section in particular, I have not given you clinical study references as much as I have given you good resources that I think are quite accessible to a lay audience that you could use to forward on to them for their own reading offline and really get inspired and more convinced about some of the dynamics you might introduce.
Alcohol. This is one of the toughest challenges for my clients as well because people, especially when they're experiencing the ups and downs of energy that come with insulin resistance, they're usually using caffeine during the day in order to boost themselves up. They're interested in using alcohol as a nervous system suppressant at the end of the day as a way of calming down their energy.

The link that I gave you at the bottom of this page is a really wonderful ... It's actually not a single article; it's an entire publication that talks about the dynamics of alcohol and diabetes at length. Really wonderful and something I really encourage you to read. The biggest problem with alcohol is physiological because alcohol is actually absorbed largely in the stomach and goes directly to the liver. It needs no help to be absorbed, whatsoever. We absorb it very, very rapidly, and so we get in a very, very aggressive spike in insulin in order to accommodate the alcohol because alcohol is a carbohydrate, but, as we discussed in our first webinar, that incredibly aggressive spike in insulin causes a subsequent aggressive fall or trough in blood sugar. Most people find it really irresistible to dive into junk food, munchies, and sweets when they're drinking alcohol. It's one of the reasons why bar food is so popular, carbohydrate-laden food that you can enjoy along with your few beers in order to rescue your low blood sugar.

I think the bigger physiological issue that's really of concern is that when alcohol hits the liver, the liver does respond to is as a toxin. It will actually stop all of the other functions in order to manage a sudden in flow of toxins. What happens is that the body actually, both in the immediate sense and over the long haul, begins to control blood sugar less well because ultimately the liver is the most important organ for controlling blood sugar because that is where glycogen is primarily stored as a way of raising our blood sugar when needed in order to keep the blood sugar fairly stable.

I think the dynamic of caffeine and alcohol together makes for a particularly difficult dynamic duo. I use this slide right here with my clients a lot because people are often very shocked at this notion. It's an opportunity to talk about our poor adrenal gland, as you well now know, really suffers from the effect of significant amounts of daily caffeine. It's a wonderful trigger for a conversation with your clients about what are they doing that's causing the need for that? It's amazing how much we deprioritize sleep in our society. I think people completely revolutionize their lives by just making the choice, and it is a choice like anything else. People are going to have really good excuses for why they don't want to make choices, but it's just a choice of just going to bed, turning out the lights by 9:30, by giving the body an opportunity to really sleep and putting us in a place where we don't have to use chemicals in order to cover up our buffer, our exhaustion.

In the same way, using alcohol to force our bodies to calm down. Lots of times an alcohol at the end of the day and mindless television is a choice that people make that's not actually rejuvenating in any way; it's numbing, but it's not rejuvenating typically. I try to work with each individual client to understand what are some of the other alternatives that they could pursue in order to give their body a break from the effects of alcohol, especially during the 3 to 6 month window when their body is really trying to heal and set a whole new precedent.

I often spend some time talking with my clients when we're going through this eating plan about the fact that all carbohydrates are not created equal. Most people walk around and they're talking about, "I know I've got to eat low carb, but I can't have any carbs." Most people do not realize that vegetables are carbohydrates. They don't understand that almonds are carbohydrates or that garbanzo beans are carbohydrates. Most people are thinking "carbs" and they're thinking about things like potato chips and french fries and mashed potatoes and rice. I find they can really benefit from an education about carbohydrates and that they're not evil.
Carbohydrates are something that the body can readily metabolize, but over-consumption of them ...
Consumption, period, of certain types of them bounce against their particular genetics to cause some problems.

I'd like to differentiate between the density of carbohydrates in certain foods, whether it's light, medium, or
dense and then whether it's slow acting or medium or fast acting; meaning what is the glycemic load of those
foods, how rapidly are the sugars in those foods broken down, digested, isolated, and absorbed. It's an
opportunity, and I like to use simple things like colors in the descriptions here to differentiate between the light
and slow acting foods that they should choose the vast majority of the time versus the dense and fast acting
foods that we're asking them to either minimize or to completely give up. Don't take for granted that the
average client understands these kinds of things because my experience is that they don't. Most of what they
know about different categories of food, they've picked up on USA Today headlines or little snippets in the
television media, but they don't always understand the full suite of foods that are at play when we talk about
insulin dynamics.

I like using pictures with clients, helping them to see visually what I'm talking about. I talk about anchoring your
diet with vegetables. I might use a slide just like this, like, "Okay, what do you see that you like? What do you see
that you enjoy?" Sometimes it's an opportunity, if they're feeling overwhelmed, to just start making a list of,
"Okay. Here are 8 fruits and vegetables that you enjoy that you're going to try and include in your diet as much
as possible over the next 2 weeks until we meet again." Simple step-by-step things like that can really help,
pictures like this that if you meet your clients in person, you can discuss it eyeball-to-eyeball or even later on e-
mail to your clients because it's a good visual reminder, and it looks delicious. Fresh fruits and vegetables are
delightful. I think the rainbow is really gorgeous.

These kinds of tools I find help quite a bit. When you say to a client, "I want you to anchor your diet with
vegetables," don't assume they know how to do that because I find often they don't. It's amazing to me once I
start building beneath the surface to learn how often vegetables for a client means canned green peas and pre-
washed iceberg lettuce. They're going to need your help to really expand their low glycemic carbohydrate
repertoire.

Now food sensitivity is something that really requires a lengthier conversation. For those of you in the semester
program, we talked a bit about this in Disease 101, but I want to talk about it for everyone's benefit now
because we think about reactions to foods, largely in terms of food allergies. We've all known someone or
maybe you've had clients who consume a particular food and they have an IgE mediated response to it. Maybe
they can't breathe, they have a swelling of mucous membranes, like their lips, or they break out in hives. It's a
very aggressive and often violent reaction.

What is very often not even acknowledged in conventional medicine today is the whole category of food
sensitivities because we have several other types of antibodies. IgG antibodies can be provoked by food in a
delayed response mode; meaning something that I might have for dinner tonight might give me a headache
tomorrow evening or may make my arthritis act up the day after tomorrow for a few days or may give me a
good night's sleep tonight, but a poor night's sleep 2 nights afterwards. Delayed inflammatory responses is the
hallmark of IgG sensitivities. There is, unfortunately, a fairly common issue called leaky gut, where, as a result of
inflammatory foods or medications or maybe different microbial infections in the gastrointestinal tract, an
individual's intestinal lining literally becomes permeable or leaky. Foods that we consume on a regular basis,
molecules of them, semi-digested molecules of them, can literally leak through the intestinal wall and cause/
trigger an immune system reaction.
Gluten and dairy containing foods are the most common food sensitivities. That is the reason why, in my reversing diabetes eating plan, I encourage my clients to become 100% dairy-free and gluten-free. By going gluten-free, it actually makes the removal of flour-containing foods much easier and it gives them an extra reason for doing that, but it also removes the blood sugar effects of both of those foods. For those of you who may not be aware, whole wheat bread actually spike blood sugar more than table sugar does. We have a lot of misconceptions about organic, whole grain, whole wheat. As one of my clients said, "Made by my grandmother in Vermont." It doesn't matter how wholesome it is, whole wheat bread still spikes blood sugar very, very aggressively.

When the spirit of removing the inflammatory effects of the most common food sensitivities, and I do this for diabetics without testing because it helps them to follow through on the whole plan regardless. I often have to explain to someone what I mean by developing a food sensitivity. I talk about it, I use pictures like this in order to talk about, the small intestines, this is what it looks like. It looks like a big garden hose with a carpet on the inside, little carpet hairs. Digestion of our food happens when the semi-digested sludge that would be in the middle there in that empty, black space begins to get small enough that it can sit down in between the little hairs of carpet and actually get absorbed into the garden hose.

I use diagrams like this one to explain to them what's happening on each one of those little fingerlings or what we call villi; we have thousands and thousands of microvilli, and that when we digest food, what should be happening is that the food is breaking down into little, tiny components and our microvilli are uniform and strong and straight and there isn't a lot of space in between the villi. Food has to be very highly digested before it could make it down into our blood supply. This means that something like a piece of bread does not leak through into our blood supply when it's semi-digested. It doesn't begin to go down until it's broken down into individual molecules of glucose or of polyunsaturated fat or salt or B6, individual molecules of a nutrient that the immune system is perfectly happy to see and it's what it expects to see.

Wear and tear in our intestinal lining for all the different inflammatory reasons I mentioned earlier, including low vitamin D. For those of you who are operating in the northern half of the United States, this is particularly a big concern. Low vitamin D can be a major cause of intestinal permeability or what are called wide junctions, meaning wide gaps in between the villi that allow food to snake through to our blood supply when it is semi-digested. It's not an individual molecule of a sugar or an individual molecule of fiber or of a vitamin; it's a chunk of bread. It still looks like bread. I don't mean chunk; it's a molecule, but it's still semi-digested. The immune system does not expect to see that. It flags it as a foreign invader, just like it would a virus or bacteria and develops antibodies, IgG antibodies against that food. Now your immune system is alarmed every time you consume it. It's a major trigger for inflammation and can be a significant player in terms of promoting insulin resistance in terms of the inflammatory pathway, because you can develop food sensitivities to many things that are low glycemic and they're still going to trigger inflammation. Again, pictures like this, I find it really helpful for clients to really understand in their gut what you're talking about.

I like to give them information specifically on what I mean by food eliminations. I will talk about an overview of things. I also try to let them know about hidden sources. I like to either refer them to websites or give them handouts on what to choose and what not to choose in terms of these eliminations. Again, when you say eliminate dairy, don't assume that they know what you mean. It's amazing to me the number of people who still believe that eggs are a dairy food just because they're offered in that section of the grocery store. They're going to need help understanding exactly what you mean.
Now I always talk a bit about activity. I want to point out that I always talk about it; I use the word activity as opposed to exercise because a lot of people have an unfriendly relationship, let's say, with the topic of exercise. I love this picture. Again, I like to use visuals with clients. This usually makes people laugh. I think it's very comical to people who are taking an escalator to go into a gym where they're going to work out. They probably waited in line for a front row parking place as well.

This is, I think, the biggest problem around our lack of activity, is we don't seize the opportunity for natural movement with our life. Many times I find that individuals who are obese, and particularly those struggling with low energy because of diabetes, they're not particularly active. I don't mean that they don't go to the gym. They certainly don't go to the gym. They don't have a regular, consistent routine for exercise, but they also don't move within their life. I'd like to work with clients to help them find a unique, specific, creative way that they can get more movement in their life that doesn't feel intimidating or overwhelming.

There are many people who have gym memberships who hate the gym. I will be the first one to say, “Great. Cancel your membership tomorrow because we don't want you force yourself to do anything you hate in the name of wellness because stress is not going to help anything we're trying to achieve,” but trying instead to identify things like what you see here that they might do on a regular basis that doesn't feel quite so overwhelming. Very simple things like choosing to never take an elevator or an escalator again, but to always take the stairs, parking in the back of the parking lot with all the expensive cars, taking a couple of baskets instead of a cart at the grocery store. You can get a serious workout that way. There are all sorts of things you can come up with on a creative type of solution for your clients that will meet their lifestyle. Some of our clients have allergies, some are living in really cold or hot climates, some have injuries, and some have weird work schedules. Simply telling them, “Hey, you need to exercise.” They don't necessarily know a workable way to do that is going to help them to sustain it.

Sleep. What a controversial topic. Loss of sleep is a risk factor for insulin resistance. That has been shown true blue. Our tendency toward greater inflammation is much, much higher if we don't sleep. I try to inspire my clients to go to bed early enough that 90% of the time they do not need the alarm clock. Maybe they still set it as a stop gap, but 90% of the time, 9 days out of 10, 2 weeks except for maybe 1 or 2 days, they go to sleep and they wake up on their own before the alarm clock goes off, so that their body has really had a chance to sleep as long as it wants to. This is really critical. It's amazing how much we deprioritize sleep. We deprioritize resting our body in the same way that we deprioritize sitting down and savoring a nice, slow meal. These are 2 of the things that strengthen us the most.

I like to talk with my clients specifically about their night time routine and really get into the details of it. What are you doing? What does your sleep space look like? What's on? What's off? Is it dark? Is it quiet? Is it stressful? Is there a lot of wireless radiation or a lot of things plugged in your bedroom? What are you doing an hour or so before you go to bed? Are you doing something calm and peaceful or are you doing something that's getting you all wound up just in time for your cortisol level to spike as you go to bed? These are the kinds of things that people can control. They just may need help understanding that watching a crime show and then just quickly checking my e-mail, just real quick before I go to bed is not therapeutic in any way. The body needs our help winding down and calming down so that melatonin secretion can really be at its maximum to help put us to sleep.

I find I have a number of clients over the years who really benefit from a gratitude practice, whether it's 5 or 10 minutes of thinking or, in most cases, some actual writing about real specific things that they're grateful for in
their life as a way of shifting their mind, shifting their thoughts away from something stressful to the bigger picture of what's going well in their life.

Then primary food is something that you're all familiar with. Certainly in the case of reversing diabetes, I think it's particularly important because clients can follow the rules of what you ask them to do, but X number of months down the road when they're on their own and they're trying to sustain this, I find, by far, the biggest thing that is going to trip them up and send them right back to where they were before is a lack of primary food, because they can lose weight, they can improve their insulin sensitivity, they can feel better, they can reduce their blood sugar, they can bring their blood pressure down, they can be feeling great physically, but if there is an emotional hunger, a craving, a desperation for something primary, whether it's affection or acceptance or love, whatever it might be ... As we all well know, the secondary food, what they are magnetically attracted to the fridge for is never going to fill that gap. Unless you can help them to open up and find what those gaps are and really fill those in, we're not really setting people up for long term success.

I find one of the most important things to support people with, once they get on board with, "All right, I'm taking the supplements, I'm doing the food. I'm in a good place," sometimes I find health counselors who are thinking, "All right. What should I cover now? Because they're in a good place, they're moving along well." Go to the primary food. I don't ever recommend going to it first. The vast, vast majority of people who have chronic conditions, especially if they're obese and have chronic conditions; they have issues with primary food. They are not allowing themselves to have what they need most. They may need you to help make it okay to explore what brings them joy and are they doing it? If not, why? How can we be creative to get those barriers out of the way and just do it? They usually need help doing that.

I find health counselors are literally the perfect support, the perfect provider to help them with that connection because you have longevity, you have an opportunity to build trust, and you're not a member of their family, you're not a friend. You don't have emotional skin in their game, as I like to say. Wonderful opportunity to change someone's life by just being there and provoking these questions and then listening and allowing them to sort through what they need to start giving themselves.

I use this quote with clients a lot. I'm sure you've encountered clients who like to jump back and explain what they've been doing. "I've been doing this for a while, and it works for me." I'll be very quick to say, "How's that working for you? I'm pretty sure you still have diabetes." Indeed, the definition of insanity is continuing the same things and expecting it to suddenly have different results. Sometimes our clients need us to be a little direct with them and bring some humor into the situation to help them observe their behavior. Certainly, in terms of going with their doctor's guidance, I do want to make all of you aware, and you may already have a good sense for this, but, as I said earlier, the average physician is, in some sense, working against you. Most of them are trying to convince their patients that diabetes is not reversible; it is just manageable. The best you can do is keep it from accelerating into bad complications.

I will often use examples like this. This is actually a real magazine advertisement, by the way. This is from Life Magazine from the 1940s. I think it's a great example that sometimes can just bring a little humor to the conversation about the fact that physicians are not any different from us or from our clients. They're just people. They're people we went to high school with. Some of them are really fantastic at what they do and some of them are not. Some of them are really inspiring and some of them are not. Some of them are creative and progressive and some of them are not. If your client is working with a physician whose guidance is really going to
counter what you believe is best for this person, it’s important for you to feel empowered to suggest that they might want to consider getting another doctor.

We would never continue to use a plumber who did a bad job or a plumber who made us feel bad or a plumber who didn't answer our questions or a plumber who didn't help us to achieve what we wanted to achieve. We wouldn’t keep calling them out of some sense of loyalty or intimidation. That would be silly. A plumber is a service provider and a physician is also a service provider. Our clients need to be empowered to shop around, to find someone that resonates with them, who will listen to them, who will support their goals for their wellness. Sometimes they need someone like you, a health counselor, to give them permission to think about things that way, to give them permission to be empowered to change. These are some tools that I hope will be very, very helpful to you in communicating the tenets to your clients.

What I want to do is just pause here for a few minutes. I'm going to go back up to the 12 tenets for just a moment and see if there are any questions in the sense of giving you all some privacy. I’m just going to see if there are any questions that anyone wants to post on the Q&A tool. Anything that’s unclear about the food choices, please go ahead and type in your question on the tool and I will do my best to answer it now, just if there's something that's jumping in right away. You can certainly always go to the Q&A tool on the website.

A question about what's magic about 15 grams of protein for breakfast? Your average-sized woman, average, healthy-sized woman, is recommended to eat a minimum of 45 to 50 grams of protein a day. In the sense of just thinking about 3 major meals a day and dividing that up equally, then I'm thinking about a minimum of 15 grams of protein. Certainly, if they want to have more, that's great, but really choosing to have breakfast be anchored with an appropriate ratio of protein. I do believe that it's very safe to have eggs every day. I think we have a lot of myths around eggs. I think, in general, if eggs have been shown to affect cholesterol at all, what they do is increase the light, fluffy, harmless kind of cholesterol. They have also been shown in some studies to increase protective HDL cholesterol. I do not think we need to be afraid of eggs. I'm a very big fan of organic eggs. Very important in the animal food realm to prioritize organic, ideally organic, free range eggs.

A question about what to have for breakfast besides a couple of eggs or a protein shake? First of all, I want to acknowledge those are both good suggestions. Two eggs have exactly 15 grams of protein. Your average serving of protein shake, which is typically 2 scoops or 1 big scoop of a protein powder, typically has between 15 and 20, so that's another good choice. I'd like to encourage clients to consider branching out into more lunch and dinner type of foods for breakfast when they're ready for it. They may not be open to that in the beginning, especially if today they're having a blueberry muffin and a mocha latte. You're going to have to work them through a transition from something sweeter to something more savory. I find that the protein shake is perfect for that, but getting to a point where people can maybe start to eat something like chicken sausage. I'm a big fan of chicken sausage. You can get it in all sorts of different flavors. It's not heavy and greasy like pork sausage. It comes precooked. All they have to do is heat it up. Maybe a couple lengths of chicken sausage and a piece of fruit, for example, is a nice breakfast.

If a client is having a really, really hard time moving away from something sweet then what I will often recommend is something like a hot cereal, a true hot whole grain in the morning, like some buckwheat or some steel cut oats. I will actually have them stir some protein powder into it while they're cooking it, while they're heating it up. Then I'll have them put a big handful of walnuts or almonds on it with a couple of tablespoons of ground flax seed. That will really help to begin to switch them over to something that is lower glycemic so you can head for other options.
My experience is that people are not going to succeed in reversing diabetes if they continue to eat whole grains for breakfast because it's just too much dense carbohydrate for breakfast for them to overcome, but getting them to a point where they could have things like vegetables and sautéed tempeh or leftover chicken from the night before or smoked salmon with some fresh tomatoes and onion and maybe some greens. I find that an awful lot of people are very open to the more savory lunch and dinner kind of options over time, if you will just introduce them to them and then give them a chance to adapt.

There's a question about a good brand of rice-based protein powder. Yes, I think my strongest recommendation would be one of two things. For a basic protein powder, there's a great brand called NutriBiotic, organic sprouted brown rice protein. NutriBiotic, N-U-T-R-I-B-I-O-T-I-C. Jarrow, J-A-R-R-O-W, also makes a good brand of that. Again, it's organic and it's sprouted; really a great vegan choice. Another product that I use quite a bit is Metagenics rice-based protein powders, either UltraMeal 360 or GlycemX 360, because there's essentially the equivalent of a multivitamin in there and, especially for my clients who are anti-pills, where I can get a good, high quality fortified protein powder, I might use that if they're open to a shake because it allows me to use the pills that they are open to taking for something that I can't get in powder form. Those are some of the things I would consider.

Why eat every 3 hours? For individuals who are truly already diabetic, one of the things that they have to transition through is trying to keep good, stable blood sugar. If they're having to take supplemental insulin, they're taking it at a period of time; it's addressing the meal that they have taken. The average diabetic is, unfortunately, very vulnerable to hypoglycemic swings because they've had a high glycemic meal and they get that trough and they have a hypoglycemic swing. If they go 5 or 6 hours in between meals, what ends up happening is they are so hypoglycemic when they come into a meal that they're craving instant energy and it makes it very hard for them to stick to the diet plan. I find if they're eating something, especially something that has a little bit of protein, a little bit of fat in it every 3 to 3-1/2 hours, it tends to keep their blood sugar stable so that they don't feel these big craving spikes. That's really important for helping them to be true to the eating plan.

Then the question of how do you know you are insulin resistant? I really encourage you to go back and look at the material in the first webinar. Insulin resistance begins to occur when hemoglobin a1c is elevated, when fasting blood sugar begins to be elevated, and when fasting insulin begins to be elevated. Keep in mind that the earliest sign for insulin resistance is not high blood sugar, its high insulin, high fasting insulin. Ideally, we want our fasting insulin to be less than about 5. Even after a meal, we want our insulin to really not go above 30. Many times people's fasting insulin is quite elevated. It may be way, way over 5; it might be 12 or 20 or 30 or 50, because the pancreas is working overtime to produce extra insulin to try and force cells to accept it. We talked about those blood markers in the first webinar. Hopefully, you'll find the more detail you need there as well.

Thank you for the questions. I am going to push on and talk about supplements. I'm going to post on the clinical course page a specific handout that lists the very specific supplements that I use and the dosages. What I want to take a moment to talk to you about in the webinar is specifically what do we know about these supplements. I'm just going to quickly show you my top 12 critical supplements and I'm going to, more importantly, talk about the role of some of them. There are 12 supplements that I really recommend, particular nutrients that I recommend people aren't getting. Now this does not mean that it's going to be 12 different pills. It might be, certainly if clients want to focus on that, they can, but there are some really wonderful combination glucose tolerance or insulin resistance-oriented supplement blends. On the handout on the clinical course page, you can
see some of those listed, where you might be able to get alpha-lipoic acid and biotin and chromium and magnesium in these amounts all in one formula. It's not necessarily this many pills at all, but I think all of these are critical. Depending on the level of insulin resistance, I'll use a subset of these or I might use all of them.

I also have a couple of other considerations at the bottom of the page that I think of as more advanced choices, that if someone is adopting the 12 tenets that we talked about earlier and after a month or so, they're not really showing any dramatic improvement, I will implement one or both of these additional supplements as a way of just getting some extra oomph in the plan, particularly around reversing insulin resistance.

First of all, I want to talk about CoQ10 and l-carnitine. Both of these are extremely critical for maximizing the amount of energy that we can generate in our cells. In the average human body, we have tens of trillions of cells playing all sorts of different roles. Every single one of those cells has within it mitochondria, which look like this little capsule here on the slide. Mitochondria is the location inside the cell where energy is generated. CoQ10 is one of the supplements that I recommend because it helps to ensure that the body is optimally able to convert what energy is available or what fuel is available into energy. I have found a number of times that by adding CoQ10, it gives my diabetic clients just a little bit of an energy burst that gives them a little bit more momentum to commit to the plan, especially around getting more activity.

I recommend specifically CoQ10 in the ubiquinol form, if you're working with an individual 40 years of age or older, to ensure sufficient absorption. CoQ10 is really about helping to ensure all our cells are working, but especially our muscle cells. Given that your average client with insulin resistance or diabetes is already much more highly predisposed to cardiovascular events, cardiovascular inflammation, as we discussed in the first webinar, it's very important to make sure they have plenty of CoQ10 in order to support the function of their heart - arguably the most important muscle in the body.

Now there's another key nutrient that I use quite a bit, and it's called l-carnitine. L-carnitine is an amino acid that the body is able to produce, but we produce less of it as we age and when we're inflamed we produce less of it. It is responsible in the mitochondria for specifically shuttling fat into the mitochondria so that it can be burned for energy. If we don't have sufficient l-carnitine, we can have a lot of fat. The mitochondria can be perfectly happy to burn it, but it won't be able to without the l-carnitine shuttle; that's literally what it's called. It shuttles fat into the mitochondria where they can be used. Really wonderful for helping people to burn extra body fat, which is a big issue for the vast, vast majority of our diabetic clients.

L-carnitine has also been shown to be effective at reducing oxidative stress which, again, is a nemesis in diabetes and also in reducing triglycerides and specifically oxidized LDL cholesterol, which, again, is a hallmark of metabolic syndrome. A couple of references there to give you a little more detail, but I think both of these are very key for good energy production, good, consistent energy production, and then also making sure that we're able to burn fat, all sorts of wonderful, wonderful simple things that are fantastic insulin potentiators. It would be really hard for me to overstate just how powerful these substances are, even something like plain Jane supermarket cinnamon. You only need to use about half a teaspoon a day to have a huge effect on changing the sensitivity of insulin receptors on cells.

You're going to be amazed in checking out some of these clinical study references. I'm giving you many, many of them on the next several pages. These are really seriously powerful. Again, I don't think they get a lot of press because they can't be patented. At this point, I'm not aware of a pharmaceutical company who's trying to patent...
a unique version of cinnamon, but it's something that's really easy for our clients to throw in their protein shake in the morning or sprinkle on some apple slices that they might enjoy as a snack in the afternoon.

Chromium is a trace mineral that the body has to have. Chromium is being added usually because diabetics are much more likely to be deficient in chromium. Chromium literally helps to make something called glucose tolerance factor, which allows the uptake of glucose into cells in the first place. Lots of times insulin resistance is there to begin with in part because there is chromium deficiency. I think, unfortunately, that's yet another example just like magnesium and other nutrients that we'll talk about where we have lower and lower amounts of minerals in our food, period, because of poor soil quality.

I'll give you some suggestions here, specifically for chromium. I recommend the picolinate or the polynicotininate form. Cinnamon, it can be anything. It doesn't need to be in the exotic form; just regular, basic cinnamon. Easy to include in the diet or it can be taken in capsule form, if people don't like it. It is included in a number of the insulin resistance supplement remedies that you'll see on the handout.

Biotin. Biotin is a water-soluble B-vitamin that plays a particularly important role in the generation of enzymes that control carbohydrate and fat metabolism. Interestingly enough, it also regulates gene expression in favor of tighter glycemic control. This is actually affected by the level of biotin in the body. This is another easy, simple thing to boost. It's usually a part of any good, complete B-complex. It is also typically included in the insulin resistance supplement formula.

Magnesium. We talked about magnesium in a number of our courses. It is, unfortunately, one of the most common American nutrient deficiencies. Interestingly enough, insulin plays a role in storing magnesium. The process of insulin resistance doesn't allow the glucose into the cell, but it also doesn't allow the magnesium in the cell. As a result, individuals have a difficult time storing magnesium and they end up excreting more in their urine. This is a concern. I recommend the glycinate, the malate, or other multi-"chelate" forms. Certainly, if your client is also struggling with constipation or sluggish bowels, I really recommend the citrate form, particularly taken in the evening, can do a great job to get rid of constipation.

Some other good insulin resistant busters. Epigallocatechin gallate is a mouthful, or what is typically called EGCG, is actually an extract from green tea. It actually directly improves insulin tolerance and increases natural insulin secretion from the pancreas in individuals whose pancreas is worn out. It actually does a good job of stimulating the beta islet cells to put out greater insulin, which is very important when the pancreas has started to wear out and insulin resistance has progressed to be real true Type 2 diabetes.

Gymnema is an herb. You're looking at a picture of it right there. This is something that has been used for eons to help improve insulin secretion, again by nurturing the actual cells of the pancreas. Both of these are included in a number of glucose control supplement formulas. Vanadium is a trace mineral. It is an element, a trace mineral that, like cinnamon and chromium, is an insulin potentiator. It actually increases insulin receptor sensitivity in order to encourage cells to take up more glucose. Once again, it's a mineral that should be in our food in reasonable amounts, but, unfortunately, we're seeing things become more and more depleted as we've discussed. Pretty much across the board, you're going to find vanadium in supplements in a form called vanadyl sulfate, which is tolerated quite well and shown no toxicity up to pretty large amounts, many, many times more than what someone would be taking in a daily supplement for this purpose. Again, a huge number of clinical studies here where you can learn more about these, if you're interested.
Now on the inflammation side, we know that diabetics are much more likely to be wrestling with oxidative stress and chronic systemic inflammation. I always recommend a good, high quality fish oil for diabetics as a way of helping to reduce the cardiovascular risk and, in particular, bring down the triglycerides, which we know is a huge issue for diabetics because excess sugars, especially fructose, get stored as fat, primarily as triglycerides. Flax seed, ground flax seed, is something I recommend to many diabetics, not to all but too many. It's a great source of little extra protein, some additional omega-3 fats, really powerful phytochemical in flax seed called lignans, which have been shown to be effective in reducing fasting blood sugar. That is believed to be because of the anti-inflammatory effect on the lignans as far as reducing the inflammation load on the cells, which is one of the things that create insulin resistance in the first place. Obviously, using real flax seed, you get an opportunity to make the glycemic load of foods lower if you're mixing that flax seed into a shake or sprinkling it on a salad, consuming it with food in order to slow the absorption of sugars.

Alpha-lipoic acid, another wonderful substance that we get naturally from our food. It is very effective at quenching oxidative stress. Very, very powerful antioxidant that also actually boosts the effectiveness of other antioxidant systems. It does things like helps the body to get rid of oxidized antioxidants. A word of caution around alpha-lipoic acid: the vast majority of it that's sold is a mixture of an R and S fraction. Those are different isomers, different molecule orientations of alpha-lipoic acid. Where possible, I recommend folks try to get a full R fraction. A great, cheap place to get that is from swansonvitamins.com. One that is a 50/50 combination will certainly work, but where possible, if someone can get a full R fraction. That is the one that is active for a longer period of time that is naturally produced in the body.

Berberine. Berberine is really poised to shake up blood sugar control moving forward. A tremendous amount of research done on berberine just in the past 10 years. This is an extract from an herb, typically from goldenseal - that's what you're looking at on the corner there - although it can come from other herbs as well. That is very anti-inflammatory. It's also antimicrobial as well. I use it quite a bit with treating my GI clients, those with GI disease. Studies have shown very specifically that berberine is more effective than glucophage, more effective than metformin at improving insulin sensitivity. On top of that, it reduces triglycerides. I gave you a link here for a great write-up that you can pass on to your clients in terms of getting them inspired about using berberine. The clinical studies for a typical client are just going to be a little too dense, maybe a little overwhelming. This is a great write-up, certainly for you to review, but also to pass on to others.

Then, lastly, I mentioned as one potential add-on for some clients, benfotiamine is a form of vitamin D1 of thiamine. That is very, very effective, actually amazingly effective at alleviating oxidative stress and, specifically, actually breaking up those sticky clumps of AGE that we talked about in the first webinar, those advanced glycation end products, that develop when high blood sugars are interacting with tissues, proteins and tissues, and causing all sorts of oxidative stress at least to all the complications we experience with diabetes, in things like neuropathy and eye damage and kidney damage, heart damage. Benfotiamine is fantastic for that. It actually boosts a very effective enzyme called transketolase that breaks down those AGEs - a really powerful addition to add.

That's the overview of the research behind some of the supplements. Again, you'll see on the clinical course page the specific dosages and things. You'll have that to use. I want to get into a couple of case studies to show you just some examples of what I use and the combinations of them because you don't necessarily have to use all of them in order to get it to work. Again, it depends on how advanced the case is, how strong the compliance of the client is on the eating end of things, and what their genetic predisposition is.
I'm going to check in with my questions here again, so feel free to send them in if you have some questions right now on the supplements. What do I recommend to clients who experience gas and bloating with the ground flax seeds? Does it matter if we buy it pre-ground or if we grind it ourselves? Let's see. I think, ideally, you buy flax seed whole and you grind it yourself within a fairly close time of when you're going to use it, within a few days. For some people, that's a little overwhelming. It's easy to grind flax seed in a little spice grinder, a spice mill, or a coffee grinder, but if someone buys it pre-ground in a bag, I think it's important to store it in the refrigerator because the omega-3 fats are very easily damaged with too much oxygen and heat. Either way, you just want to store it in the fridge.

What do I recommend to clients who have gas and bloating with ground flax seed? That's a great question. Lots of times that shows up as an issue for people who don't already have a lot of fiber in their diet. My experience is that they just need to back down. Where I might think it's no big deal to toss 2 or 3 tablespoons into a dish, I think that for some people who aren't used to lots of fiber in their diet, that's going to be a big transition because bacteria in our gut ferment fiber. That's something that they can wrestle with. Building things up nice and slow and smooth can help them make the transition over time to higher amounts. I might start them off just with using a teaspoon.

If they find, in general, that they have bloating in response to fiber and food overall, it's probably an indication of an overgrowth of some type of bacteria in their gut. The nice thing is that once they start taking berberine twice a day, it will help to reduce overgrowths because it is an antimicrobial. For someone who's experiencing that type of bloating all the time, I think the berberine is something I would definitely, definitely do. Then after they've been using it for maybe about 4 weeks, I would add in a good broad spectrum probiotic as a way of trying to re-stabilize a different balance of bacteria in their gut. For a lot of people, it's not a bacterial imbalance, it's just the issue of their not used to fiber.

The next question is, is having high cholesterol, both good and bad, struggle to lose weight a warning sign of metabolic syndrome? Theoretically, metabolic syndrome is the combination of ... Maybe I should say, first of all, that it's not a disease. It's like fibromyalgia. It's a fancy name for just a collection of symptoms that can be there for a variety of reasons. Theoretically, metabolic syndrome is the combination of being obese, having Type 2 diabetes, having hypertension, and having elevated LDL cholesterol. That, I believe, is the current technical definition of metabolic syndrome. We don’t have a class in this particular semester, but we will have one moving forward specifically on cholesterol.

I want to highlight that the old adage of LDL cholesterol is bad and HDL cholesterol is good is way simplified and false. HDL cholesterol is very protective. Having high amounts of it is really wonderful, but the LDL cholesterol is not necessarily harmful in any way. Despite what you hear in the media, the 2 factors that are most predictive of cardiovascular problems related to lipids have nothing to do with LDL. Nothing. Total cholesterol, first of all, is irrelevant. There is no correlation between total cholesterol and cardiovascular events. That is a giant myth. What does correlate to cardiovascular events is having too low on HDL - for women, that's below 50; for men, that's below 45, I think, 40 or 45 - or having elevated triglycerides which, as we know, is free fats. Elevated, by their technical definition, it means greater than 150. I believe we all need to have our triglycerides at about 100 or less in terms of ensuring that the body is well managing fats.

Keeping in mind that cholesterol is not an evil substance, cholesterol is something the liver produces for really good reasons to try and protect us. Most people find that when they address the inflammation that comes from sugar, their lipid markers are going to shift and come back in line anyway. By far, the best way to increase your
HDL and to reduce your triglycerides is to get rid of sugars and refined carbohydrates. It has nothing to do with fat. The only fat that is actually changing the dynamics of lipids in our blood in a way that's harmful is trans fats, partially hydrogenated oils, and then highly processed, refined omega-6 fats - that is refined vegetable oils like Wesson Oil.

Then the next question is you didn't mention polyunsaturated fats as an inflammatory food. I agree. That's what I just said. The comment here is I believe these are a problem due to rancidity. Yes, polyunsaturated fats are definitely an issue. It's actually listed on the food choices handout that's posted on the website. You're going to want to take a look at that. That's something you can share with clients. The 2 types of fats that are really causing us harm are trans fats and then refined, chemically refined vegetable fats, those vegetable oils that are not cold-pressed. If it doesn't say 'pressed', they're not pressed, like olive oil. They are chemically refined. Toxic chemicals are used to leach the oils from the seeds or grains. It does a tremendous amount of damage to the food. I agree with you completely, definitely.

I am going to get on to case studies. Meet Louise, aged 58, female, retired physician, diagnosed with Type 2 diabetes, also hypertension and osteopenia. She did have a history of high alcohol consumption up until 8 years prior. She had been completely sober for 8 years prior to when we met. Normal weight, not overweight. Hemoglobin a1c is at 12.5. If you retained good details from the first webinar, you are thinking, "Yeah, that's really high." It is very high, definitely out of control. Vitamin D: 25. Typical fasting blood sugar, as she measured it on her own, between 130 and 140 - definitely an issue. Primary complaints: low energy, occasional dizziness, really struggling with working out because of the dizziness and the low energy, depressed, and struggling occasionally with tingly hands and fingers. She had a self-stated food philosophy of eating low fat, low sugar, no processed foods at all, and as much organic as possible. She had been a vegetarian for, she said, at least 10 years. You can see there what she shared with me as her typical diet. Certainly much, much better than most in terms of what we're going to encounter in our clients. Taking daily Centrum Silver, metformin for the diabetes, and Lotensin, which is an ACE inhibitor specifically for the hypertension.

I just want to give you a moment to take a look at the page and see what kind of interconnectedness you see. What's causing what? What might be an issue? I just want to give you a chance to take a look at that. As you see things, please post them on the question tool. Let's see. What are you seeing? Lots of grain flours and no fat. Absolutely. Big focus on really trying to eat non-processed foods, which is great, but lots of grain flour with the daily cereal, lots of pasta, lots of bread, and then a fat phobia. Absolutely. What other connections do you see? What plays into what? Anybody else want to raise anything? Low vitamin D, maybe leaky gut. Absolutely. Maybe an issue with leaky gut. It's probably an issue also with her osteopenia.

One of the things that you may not be aware of is insulin is a hormone. When someone has high insulin because of trying to counter insulin resistance, it tends to interfere with the other hormones in the body like progesterone. Progesterone is the primary hormone that helps us to make new bone tissue. That could be at play there. Tingly fingers maybe due to low B12. Absolutely. That may be exacerbated by the metformin. It could also be exacerbated by her low protein diet. B12, remember, only comes from animal sources. She is taking a multivitamin, but it's an exceedingly low quality one. In fact, one of the first things I did was take her off the Centrum Silver because one of the ingredients in Centrum Silver is aluminum. You've heard me say before no One A Day, no Centrum, no crap vitamins.

The association with caffeine with the fatigue. Absolutely agree. I'm really glad you pointed that out because it is something that most people don't understand. Generally speaking, consuming caffeine makes us more tired. It
does not give people more energy, it gives people temporary fake energy, but most people find that they have more aggregate energy across the whole day when they give up caffeine. Certainly, she had a history of a lot of caffeine because of her prior hospital schedule as a physician.

Let's see. Goitrogenic foods. Yes, I agree, peanut butter, tofu. Definitely wondering what might be going on with her thyroid. We didn't have any data on that. I wasn't particularly concerned about it because her weight was normal, but it could certainly be at play with her low energy and her dizziness in terms of eating foods that might be working against her thyroid function. Great. Excellent. Great connections.

I worked with Louise for a total of 6 months. I introduced her to pretty much the food plan that we discussed, but in a largely vegetarian mode. We did emphasize the need for more protein and more fat and the need to minimize grains, get rid of the pasta entirely. She had never explored quinoa or buckwheat before, so I gave her some and gave her some recipes. She was, after a month or so, able to wean down off of the diet Coke and stopped. She was one of those people that had withdrawal symptoms in withdrawing from artificial sweeteners. That's a clinical pearl to be aware of, to let people know that lots of times withdrawing from diet soda does not make them feel great in the beginning. The body may detox as a result of that.

We changed up her breakfast to largely eggs and vegetables. She was very open to eating eggs. Sometimes occasional buckwheat with almonds and flax seed, which she seemed to tolerate well, but really changing up her lunch and dinner in a big way; changing lunch to a salad or stir fry with either tofu or tempeh or about a cup of beans. We pulled in a lot of avocado as well in terms of getting in some good, healthy fat. As she began to see how better she felt with higher protein, she became very open to experimenting with a little bit of fish in her dinner, some lighter fishes like cod and tilapia, she also ended up trying some shrimp, but really found she felt much, much better with more protein in her diet. Something I did not put on here but that I remember about her that's worth mentioning is I knew upfront that Louise was a type O blood type. Type Os, in many cases, not always ... I am not a black and white believer in eating right for your blood type, but I do find there's wisdom in at least considering it in terms of where someone may be off on the wrong path. She was a type O blood type. I was suspicious that she would feel better with more protein, and indeed she did.

There's a question here about what are the detox symptoms of soda withdrawal? It can really vary. Certainly, I find that low energy and malaise is often part of it. It is very common for people to get headaches that don't have anything to do with the caffeine actually, but it's the withdrawal from the artificial sweetener. In particular if they're withdrawing from something that has aspartame in it, there may be all sorts of anxiety or depression kind of symptoms for not a long time, you don't have to scare your clients, but up to a week. Once they get on the other side of it, it's gone.

Now in terms of a supplement plan, I was not worried about her body weight. She was in a place where her genes were really working in her favor. She was nice and slim and just very healthy, not carrying around a lot of body fat either, but clearly really struggling with the blood sugar pieces. I was concerned about storing fat internal to organs. I put her on a glucose control formula made by Metagenics. It's called MetaGlycemX, which is essentially like a multivitamin that also has a lot of some of these insulin potentiators added into it. I had her taking fish oil, CoQ10, the flax seed, vitamin D daily. Then I had her do something that I haven't shared with you yet, but it is very effective. There are a number of different substances that you can take with meals that will help to slow the absorption of sugars. It gets people away from the insulin spiking behavior. Apple cider vinegar is one of those.
Louise was one of those people who was very anti-pills. That was one of the reasons why she said, "I eat such a healthy diet because I want to minimize supplements." I really tried to pick and choose what I thought would be the best for her. I picked the things that I thought would be the highest hitters. Then instead of doing a pill for helping to suppress blood sugar spikes associated with meals, I had her take ... We built up to it. She started with a one tablespoon, but building up to taking two tablespoons of raw apple cider vinegar mixed in with just a teeny bit of water in the middle of a meal. Then even though she wasn't taking anything specific with it, apple cider vinegar not only helps to improve digestion in the upper GI tract of the stomach by increasing the acidity of our gastric juices, but apple cider vinegar has been readily shown to slow the absorption of sugars from a meal.

There's a question about even though she's thin, do you worry about free fat mass versus lean body mass? Absolutely. In her particular case, like I said, I was worried about visceral fat, meaning below the surface in terms of where she might be collecting it. When you have the opportunity to look at your clients, it's important to look beyond what their weight might be and tell whether or not they're what I call a thin-fat person. There are certainly plenty of people who, to your point, are healthy weights, but they're carrying extra fat. Someone that's had a healthy weight or maybe even on the lower size should not be carrying around a lot of extra ... Shouldn't have a muffin top. They should not have a lot of observable, extra, hanging body fat because diabetes doesn't have to result in weight gain. It can result in just increased percentage of body fat to your point.

Bottom line, 3-1/2 months into this plan, she had a drastic improvement in her hemoglobin a1cs. They were essentially halved, which was amazing to me. In this particular case was really a credit to the fact that she already loved healthy food, she loved the idea that she could really make this work. I think because of her medical background, she really got it intellectually. I like to showcase Louise as a case study because she's a walking testament to the power of just changing your food. It's amazing. She went off of her metformin actually about 2 months into the plan and was in the process of reducing her ACE inhibitor dosage because as her blood sugar was improving, her blood pressure was naturally improving. She was finding that her blood pressure was actually going too low. She was getting a little extra dizziness and that sort of thing, and so clearly was not in need of that as much. A wonderful success story.

In terms of follow through, Louise ended up referring me to actually 2 other physician clients, one of whom turned into a professional referral source to me, but 2 other physicians that I was able to help with their own specific medical issues as well, which makes for wonderful testimonials. It's also a great opportunity to learn about the mindset and the challenges of the conventional medical community. I also share this example because, as many of you know, I have worked with a number of different medical professionals as clients. I don't want you to be afraid of helping people like that. This is a great example of how people can have a specialty that has nothing to do with where they need help. I find that, in general, they're avid learners and they're very open.

A particular point I want to make in Louise's case is I believe very strongly, in retrospect, that her years of over-consuming alcohol is a major reason for why she developed diabetes in the first place. Because with the chronic burden on the liver, as we discussed earlier, the body becomes unable to appropriately control blood sugar. Even though she had been sober for a number of years, the daily relatively high consumption of alcohol before had clearly done enough damage to her body that it has persistent effects. An interesting case.

The second case I want to share with you is Brenda. This was a few years ago. Brenda was 47 years of age, definitely obese, history of being overweight most of her life and, in particular, gained the extra big chunk of it 10 to 15 years prior when she was having her kids and never lost it. Very common issue with women, especially given her lifestyle. Brenda, a very busy sales executive, very successful professionally, always eating on the run,
lots of coffee and diet Coke, quite a bit of fast food, definitely a drive-through junkie because she's in her car a lot in terms of sales, of her visiting clients, and putting on presentations; often skips breakfast, just has coffee or maybe has a granola bar, stressful. I couldn't resist quoting; I still had it in my notes, quoted, "Too busy for a relationship. I like going to bed with my Blackberry." It's a sad state of affairs, but clearly very stressed and usually did not feel rested. I think really struggled with disengaging from her professional world in order to sleep well. Diagnosed with Type 2 diabetes 3 years prior, diagnosed with hypothyroid many years prior, chronically constipated. As she put it, "I could be reading novels in there."

Hemoglobin a1c: 8.5, but fasting insulin: 32. This is really elevated. This is definitely a sign that her pancreas is really working overtime. As you can start to see, it's not helping. She's at a progressive stage in diabetes where her pancreas is already working overtime to produce more insulin and is not working because not only is her a1c really elevated, she is dealing with so much extra sugars in her blood that her triglycerides are really very high, 278, and her protective HDL at 31. Free T3 thyroid hormone: 2.45. Taking metformin for the diabetes; Synthroid, which is synthetic T4 hormone for her thyroid; a statin, Lipitor, in terms of just in a preventive mode against cardiovascular issues; lisinopril, which is another ACE inhibitor for hypertension, and a One A Day multivitamin.

Again, as before, I encourage you to take a look at this case. What interconnectedness do you see? What jumps out at you? What is causing what? The Synthroid is not helping that overwhelmed liver. I agree 100%. In fact, none of those medications are helping the overwhelmed liver. Her T4 is probably sky high. I agree completely. She's been taking Synthroid for a while. While her free T4 levels were mid-normal, she clearly is not converting enough t4 to free t3. Someone is commenting that's probably because of the stress. I agree completely. What else? Hypothyroid, low T3, probably causing constipation. I agree. Low thyroid probably causing problems with her cholesterol. I agree. That is probably a driver with the lower HDL.

Hypothyroid probably making it harder for her to lose the weight or is maybe the reason why she couldn't lose it after her kids. Absolutely. It is probably likely that she was struggling with stress and maybe toxicity in the beginning and developed a hypothyroid problem. That made her metabolism sluggish, so she put on extra body fat. The extra body fat and her diet and her stress predisposed her for insulin resistance and now she has diabetes. That's very logical to me. I think you're going to see that kind of flow in your clients a lot.

No protein for breakfast. Absolutely. Her diet was a disaster area. To her credit, she was really open to making some change, but obviously we had to come up with some solutions that fit her lifestyle. The caffeine was a disaster area for her adrenal gland and, therefore, affecting the thyroid. Yes, very important connection. All of that caffeine and all the stress, too, is sending her adrenal gland into a spiral all the time. We know the adrenal gland affects the thyroid gland. In particular, when we're very stressed, we don't tend to make a lot of good freeTt3 that helps us have good energy and a strong metabolism. Instead, what we tend to make is a lot of reverse T3, a lot of storage of T3 that's going to keep our metabolism sluggish and keep us struggling to lose weight, especially to lose fat. Spooky high triglycerides. I agree. Definitely spooky. I think a tribute to how hard the pancreas is working and still, unfortunately, failing. With fasting insulin of 32, it should be absorbing sugar like crazy, but it's not. It's keeping her a1cs quite elevated. Definitely, I think a logical picture here, but obviously something that really needs to be remedied.

What did we do for Brenda? Brenda was a challenge because she had a lot of barriers because she said, "I am not going to go sit down in my home and eat a home-cooked lunch. That's just not going to happen because I live out of my car." I said, "Okay. No problem." We made some deals. No artificial sweeteners, no natural sweeteners, and then the commitment to cut down on the caffeine, which was a really big deal for her. She was
unwilling to go to zero, which she said she would try to get it down to just having that one cup in the morning. That was a huge change for her. Then the only thing she was willing to do at home in terms of food in her own kitchen was she loved the idea of a shake because she could make it in the blender, pour it in this big, huge cup, and then take it with her in the car right away and then be sipping on it on the way to her appointment. She loved that. It worked really well for her. We got her to put some good avocado and some flax seed in there in order to make it really balanced in terms of a meal.

We basically changed up what she was getting at restaurants. In the beginning, it was just a matter of instead of getting the chicken sandwich and the small fry; she would get a salad at a fast food restaurant and get some chicken on top of it, which was a huge change. She didn't like it in the beginning because she said it's messy to eat a salad while you're driving, but eventually she got to the point where she was willing to go and actually get the fast food and just pullover in the parking lot and eat her salad while she was returning her calls or returning e-mail in between appointments.

I like to feature this case because this is an example of you have to meet the client where they are. For her, this was a ginormous change. It was a way of getting her to stop, slow down, savor the meal, and make the meal low glycemic. For dinner, she got in the habit of wherever she was going to meet clients for a business dinner, of ordering just some meat or fish and then these big, huge mounds of sautéed or steamed vegetables. She got really empowered as she understood that it was so much easier to walk into a restaurant and not even look at the menu, but just speak to the wait person and say, "Here's exactly what I want." She said that was easier for her because if she didn't look at the menu, she wasn't tempted.

Afternoon snack for her largely became almonds. She liked the little individual packs that you could get at Trader Joe's, so she didn't have to worry about portion control. She did get into herbal tea. She got in the habit of zooming into Starbucks a couple of times during the day and getting a big herbal tea so she had something occupy her mouth with. On weekends, she would have some sort of whole grain as part of lunch both days. She, generally speaking, did not work on the weekends, but, otherwise, her diet was truly grain-free. This was part of my agreement with her because I knew that the food at fast food places was going to be still more refined and probably had some sugary sauces thrown here and there. We needed to give to get. Part of that was getting her to commit to be 100% grain-free.

Her activity plan was a very simple, "I'm not going to use elevators and I'm going to park in the back of the parking lot." Given how much time the woman spent in her car, this was a big deal actually. She's had a lot of walking and a lot of stair climbing. The supplement plan for her, I made pretty aggressive because we had a lot to overcome. I knew with the thyroid being sluggish, that was working against us. This woman was very open to taking pills. She was not willing to go out of her way to do a lot around homemade food, but she was totally willing to pop pills throughout the day. As before, I had her do the MetaGlycemX and I actually used for her protein shake GlycemX 360, which is a Metagenics medical food specifically made for diabetics; CoQ10 to help counter the effects of the statin, taking that twice a day. Because of the super high triglycerides, I had her taking close to 3,000 milligrams ... That's a typo. That should say 1,400 milligrams of omega-3s; 3,000 a day, which was about 5 grams of fish oil.

Magnesium, the citrate form, to help her with the constipation; the l-carnitine with the chromium, not only to help with insulin resistance, but also to help her with really burning down some of that body fat. Then the berberine, not only for blood sugar but also in hopes that it might kick some things in to action with regard to her constipation. Then I used a product called Gluorest, which does the equivalent of what the apple cider
vinegar does, which really helps to slow the absorption of sugars. Glucorest is also a Metagenics product. For berberine, in this case, I used Thorne berberine. Magnesium citrate, I was using Natural Calm. CoQ10, we were also using Thorne; omega-3s, we were using EPA-DHA 720 from Metagenics. Very importantly, she was very open to going back to her doctor and having him at least try, on an exploratory mode, adding in some T3 hormone because her stress level was really not going to allow her body to convert anything for the moment, but adding some additional T3 as a separate dose in addition to her Synthroid. That was huge for her because that really kicked her metabolism in gear in a big way.

After 4 months, Brenda did very, very well. Again, I think she had a big commitment to the plan because she felt it was really sustainable for her, given her lifestyle. She was obviously very professionally driven, so she had a lot of discipline to bring to bear to her improvement. Across 4 months, she lost 24 pounds, said it's the best she's ever felt since college. Her a1cs actually came down into non-diabetic ranges. Most importantly, and this is the thing that I'm probably the proudest of in terms of supporting her, her triglycerides halved, more than halved. That's amazing. It's amazing the impact of changing up the glycemic level of our diet and just helping the sugars to get where they were supposed to go, which is in the cells. She was able to begin to boost her HDL a little bit. Hopefully that will continue to come up more, but it was a good start. Her free T3, even with the low starter amounts of Cytomel did come up quite a bit and she felt good increases in energy.

Now this is a good example of someone who had to come off the metformin really quickly. It's important to warn your clients that as they make these changes and start the supplements, they're going to need less of their medications. It's just a matter of time. It's important for them to monitor their blood sugar levels regularly. If they experience that they are having lows, blood sugar lows, on a regular basis, they need to work with their doctor to bring the medication down. Some clients are going to feel very empowered to do that themselves, and that's fine, that's their choice, but low blood sugar can be dangerous. Metformin is forcing the body to have lower blood sugar. She had to do it very quickly because her body responded rapidly once she made the food changes away from all the processed, refined carbs.

She had also made the choice to begin weaning herself off of the statin as she began to understand the impact of it from an educational perspective and was probably about halfway through that at the update point. Again, another wonderful example in this case of someone who truly reversed. This wasn't just improved. Hemoglobin a1c below 6.0 is non-diabetic, fully. A wonderful way to turn around not only her life, but also her genetic predisposition.

That is what I have for you today. As I mentioned, I am going to post additional handouts so that you can begin to look at a little more detail around the supplement choices. I encourage you to raise additional questions in the forum. I am going to cut short Q&A here just because we're overtime. I'm not worried about it; I love all the participation and the case studies. That's wonderful, but I am going to defer additional questions to the Q&A forum. Please do take advantage of that. I will be spending a multi-hour time slot this week in order to work through all of the pending questions. I encourage you to take advantage of that.

Again, plan to review the webinar again, ideally twice, in the next 2 to 3 weeks so you can really lock in the learning. As I said, my greatest goal in all of this is really inspiring you to know that you can help people to do this. This is major change in helping to turn someone's life around for a better future and creating wildly, wildly satisfied clients who can help to field your business. You can absolutely do this. Thank you so much for your participation. I appreciate that. I wish you well. Take care, bye bye.

Reversing Type 2 Diabetes,
Part 2
The End