Metabolically Supported Therapies for the Improvement of Cancer Treatment: A Special Interview With Travis Christofferson and Dr. Abdul Slocum

By Dr. Joseph Mercola

JM: Dr. Joseph Mercola
TC: Travis Christofferson
AS: Dr. Abdul Slocum

JM: Today, more than 1,600 people will die prematurely in the United States alone from cancer. What can you do to prevent this tragedy? Hi, this is Dr. Mercola, helping your take control of your health. Today we are joined by not one, but two guests, Travis Christofferson, who I spoke with I think the year before last – it was one of our most viewed interviews – and an associate of his, who is a clinician, a physician from Turkey, Dr. Abdul Slocum, who has some data to present to confirm the effectiveness – In fact, this is one of the first controlled clinical trials showing and documenting the effectiveness of nutritional ketosis in the treatment of advanced stages of cancer.

Welcome, guys, and thank you for joining us. Travis, since you know Dr. Slocum a bit better, why don't you provide a framework before he presents his information, which to my understanding has really never been shared before publicly. Although we attempted to do it in Tampa two weeks ago but he got short-circuited and was unable to present his data.

TC: Yeah. I'm very excited for this data to be presented. As you said, cancer continues to be a worsening issue. Diagnosis has gone up from 1 in 4 to 1 in 3 and is rapidly approaching 1 in 2. It's set to surpass heart disease as the No. 1 killer in the Western world. The World Health Organization estimated the number of new cases is expected to rise by 70 percent in the next two decades.

We've been out treating this disease a long time. Nixon signed the Cancer Act in 1971. Just as a metaphor about where we've come, Ted Kennedy was in the background of a photograph when Nixon was signing The War on Cancer. You could see the hubris in these guys. It was widely believed that we'd have this disease solved in the next few years. We just landed on the moon. Enthusiasm was high. If you fast forward to 2009, Ted Kennedy died from brain cancer. He really had the same treatment paradigm that was available when Nixon signed The War on Cancer in '71, which oncologists just called "Slash, Burn and Poison" – radiation, surgery and cytotoxic chemotherapy.

Radiation and surgery have been around for over 100 years. Cytotoxic chemotherapy was developed right after World War 2. Cancer death rates from treatment have barely budged since 1950s. In the mid-'70s, we thought we finally understood the molecular basis of cancer, the events that actually cause it. It was caused by sequential mutations to key oncogenes, then we'd be able to target these mutations. This ushered in the era of targeted therapy. Again, it was thought that we'd have cancer solved within five or 10 years' time. Now the consensus of this targeted drugs have been an absolute bitter disappointment. They barely moved the needle on cancer rates. The price to value is just a ratio that gets worse and worse.

In 2013, we spent 91 billion dollars on oncology worldwide. In 2014, no cancer drug was approved that was less than 100,000 dollars. In 2015, eight drugs were approved that were over 120,000 dollars. This trajectory is going to bankrupt the system. These drugs have marginal efficacy at best. The oncology is rising at a five times faster price than any other branch of medicine.

One of the biggest problems we have is the regulatory environment. The Food and Drug Administration (FDA) has set up these absurd criteria for what the burden of proof that we have to surmount to get a new drug to market. It requires this massive phase three double blind placebo control clinical trials, which are fantastic but the expense is so onerous. To take a drug from conception to FDA approval is a billion dollars. The sad part is we need these huge statistical logs to prove these drugs are efficacious because the yardstick is only measured in median survival increases of weeks.

An example of that is Tarceva, which was approved about 10 years ago. It's got a pretty bad side effect profile. It's expensive. It boosts median survival for pancreatic cancer patients by 10 days. That's what we're dealing with, those kinds of things. Ironically, we have this Catch-22 in the system where Big Pharma is incentivized to de-risk this process because it's so expensive and make these marginal improvements.

In the meantime, we have these non-patentable therapies sit on the sidelines, that could potentially be game changers for cancer, but they cannot get the billion dollar backing to push through these huge trials to get the burden of proof to where the oncology community will actually incorporate them to the clinic.

The arsenal we have today compared to the '70s is so much more rich [with therapies] that we could use. We have all these interesting metabolic therapies. We have repurposed drugs that we could use. The oppressive regulatory environment just needs to be loosened so we can surmount the burden of proof, Phase 1, Phase 2 data, if we have good objective response. If they're safe – most of these drugs and therapies are extremely safe – that should be good enough.

In the epilogue in my book, I ask the question, "What would it look like today if we had a less onerous regulatory environment like they did in the '70s, and good oncologists were allowed to [inaudible 05:41] in figuring out, to try some of these therapies in the clinic and see what happens?" That's why I'm so happy we have Dr. Slocum here, because he's given us his first glimpse of what metabolic therapies will look like when they're incorporated into the clinic.

JM: Thank you, Travis. I have just one comment on that great introduction that you provided, in that you said that these expensive drugs that are being developed, over 125,000 dollars, are going to bankrupt the system. The truth of the matter is that the system is already bankrupt. The only reason it's able to continue is that the government – actually, the federal reserve – has the ability to print money continuously because it's the world's reserve currency. But if that didn't do that, we'd be bankrupt already. Eventually, there'll be a final reconciliation. Certainly, the costs of these drugs and the whole treatment strategy are going to contribute to that factor.

Dr. Slocum, thank you and welcome for joining us. Perhaps you can provide a little bit of an introduction for yourself, too, with respect to your clinical training and background and what first excited you and catalyzed you to be involved in this process.

AS: Hello, Dr. Mercola. Thanks for inviting me to this meeting. At the Chemo Thermia Oncology Center, we are a team of four medical doctors (MDs): two medical oncologists, Professor Bulent Berkarda, Assistant Professor Mehmet Iyikesici, me and my sister. Firstly, I'd like to mention that Professor Berkarda was born in 1932. He's the first medical oncologist in the Turkish nation. He was educated in the U.S. back in 1974. He formed oncology in Turkey. He founded Istanbul University and has been practicing oncology for around 50 years now.

Our starting point was, as all of us know, the death rates with cancer is the same for around 50 years now. It's not changing much. The mortality rate is [inaudible 07:53]. New drugs are increasing median survival with just by means of weeks. These new drugs that Travis mentioned are being approved to be used clinically, but their effect and means of survival isn't that much.

We started as a team back in 2010, asking the question, "How can we help our patients in a better way? What can we do? What can we add to our standard treatment protocols?" Our starting point was that, as clinicians. With time in the last six years, we started applying the therapies and seeing how our patients respond to it. Now for the last two years or so, we're doing retrospective analysis of our patients and publishing our treatment outcomes and sharing our remarkable outcomes that we were able to achieve by combining metabolic therapies with standard conventional protocols, which I'll be sharing some of them today.

JM: Let's go for it and provide us with your presentation.

AS: Firstly, as an oncology center, at Chemo Thermia Oncology Center, our treatment protocol has mainly six constituents. Chemotherapy, which we call metabolically supported chemotherapy, hyperthermia, hyperbaric oxygen therapy, glycolysis inhibitors to the deoxyglucose in dichloroacetate (DCA). And also ketogenic diet, together with phytopharmaceutical supplements. Our protocol embodies –

JM: Excuse me for a second. You said glycolysis therapy. Was glucose part of this?

AS: We use glycolysis inhibitors, especially to deoxygenate glucose and DCA, in our protocols. First I'd like to explain what metabolically supported chemotherapy is. Metabolically supported therapy is a method of applying chemotherapy in a metabolically supported fashion. Firstly, all of our patients are on the ketogenic diet, which makes the metabolic stress on the cancer cells.

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Before applying chemotherapy, our patients do a 14-hour fasting, which increases the metabolic stress on the cancer cells. When they come into the clinic, together with the fasting and the ketogenic diet, generally their blood glucose level is around the 80s. Then we apply glycolysis inhibitors to inhibit the glycolysis pathway in the cancer cells, which makes some amazing amount of metabolic stress to cancer cells while they're already hungry for glucose. Together with that, after a while we apply insulin to lower the blood glucose levels to around 50 and 60 to cause mild

hypoglycemia and then apply chemotherapy after this kind of metabolic stress is applied to the cancer cells.

In this form of application, this increases the efficacy of chemotherapy in a tremendous way. We've been applying this for the last seven years now, since 2010. It's an improved version of insulin potentiation therapy (IPT). IPT is known for many, many years now, but it's not too widely applied.

Our version of that chemotherapy is actually improved and a much more effective version of IPT because it combines the metabolic theory with the IPT. Metabolically supported chemotherapy is just a different way to apply conventional protocols. We have seen that it increases the effectiveness of the IPT regimes. By this way, it gives us the option to apply lower doses, see much lower side effects, but much higher outcomes.

JM: Can I stop you there for a moment? I think if you had the choices, you probably wouldn't give the chemotherapy agents. But because of the restrictions of the Turkish government where you're doing your work, you had to give them. But you gave them at the lowest possible dose.

AS: The main thing there is also according to the current regime worldwide, as clinicians, the patient must receive what's written in the guidelines. If you go against the guidelines and if the patient doesn't receive the standard of care, which is chemotherapy, by then you're in trouble.

JM: Yeah. Hopefully work like yours will abolish that standard of care or actually revise it significantly so they don't have to use these dangerous drugs, which probably aren't doing a whole hell of a lot.

AS: Definitely.

JM: With respect to other six components that you're using.

AS: Definitely. With time, the standard of care changes. Maybe when it's randomized, large-scale chemotherapy trials are done, maybe it will be seen that the standard chemotherapy therapies aren't actually much safer. But we need time to see that at much larger scale clinical trials. But in our practice, what you see is that when we apply chemotherapy together with this metabolically supported fashion, we are able to apply it at much lower doses and get much better outcomes. After chemotherapy, in the following days, we apply hyperthermia and hyperbaric oxygen therapy. We also apply daily an infusion of glycolysis medication with high-dose vitamin C, dimethyl sulfoxide (DMSO), and many other natural restrictions.

JM: Excuse me for interrupting again. How high of the vitamin C dose were you using intravenously?

AS: We go up to around 50 grams sometimes.

JM: Okay.

AS: I haven't seen it in [inaudible 14:05]. When a patient comes in to be treated by us or if they're our patient, they're always on ketogenic diets. The patients are on a ketogenic diet. The days that they're going to receive chemotherapy, they do a 14-hour fasting. They're almost always on phytopharmaceutical supplements that we recommend to our patients. I'd like to first share our first publication that we did back in the beginning of 2016 where we reported complete response for stage 3 rectal cancer. The standard of care for rectal cancer and the only curative option is actually surgery or chemo-radiotherapy, followed by surgery. But the only curative option is surgery.

In 2016, we made our first publication on treating stage 3 rectal cancer patient, together with metabolically supported chemotherapy, radiotherapy and hyperthermia. The reason we published that was actually to show and explain what metabolically supported chemotherapy is and show how effective it can be. The patient that we published was 81 years old back then. Generally, in an 81-year-old patient you won't be able to apply standard chemotherapy regimens. He won't be able to tolerate it.

By the means of the way we apply chemotherapy, this patient was able to receive chemotherapy at lower doses in a metabolically supported fashion, together with radiotherapy and hyperthermia. I'd like to show the initial positron emission tomography-computed tomography (PET-CT) scan of this patient. We can see a 5.5 centimeter large tumor in the rectum of this patient. Now, we can see the control PET-CT scan of the patient three months later, where we can see the disappearance of this tumor. This patient was in complete response. After getting this complete response, we continued with the follow-up treatment to get into the endocrines.

We published this paper after a 27-month follow-up back in January 2016. The patient was still in complete response or remission after around one more year past since we published the paper. Now it's been around 14 months since this patient has gone into remission and she's [inaudible 17:00].

This publication mainly showed that chemotherapy, when it's applied in a metabolically supported fashion, can be applied to patients who normally can't be able to receive treatment. Also when it's applied with increased efficacy, responses that aren't normal, generally, which is a complete response in this stage of a disease, can be achieved by the means of metabolic support.

A month after publishing that paper, we published our paper on our pancreatic cancer patients, which is a case series of our patients who came to our clinic with the diagnosis of pancreatic cancer. It's a retrospective analysis on our patients that came to our clinic between 2011 and 2015, who have been diagnosed with stage 3 and 4 unresectable pancreatic adenocarcinoma. We had 33 patients who came to our clinic between that timespan. Eighty-one percent of these patients had stage 4 disease upon starting treatment at our clinic. They received the standard chemotherapy regimen, which is gemcitabine-based chemotherapy.

JM: Excuse me for a moment. I just wanted to help with this in perspective. Most of these patients, the vast majority, had stage 4 pancreatic adenocarcinoma. What is the prognosis for that typically? So people understand that this is one of the most aggressive cancers that are known.

AS: Generally, if a patient has stage 4 pancreatic adenocarcinoma, these patients will live around six months, at most up to 10 months or so. If they have large scale liver metastasis, they can live as low as a couple of weeks even. If a patient has stage 4, generally the expected lifespan is mostly around six months. But I'd like to also note that the patients we've seen in our clinic are generally at the end of stage 4, end-stage disease. Most of them had large scale liver metastasis. But what we saw was even though they were end-stage advanced patients, they responded amazingly to this sort of treatment. I'd like to note that the chemotherapy that they received has begun with standard regimes.

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In this diagnosis, there are two protocols that you look by: gemcitabine-based chemotherapy or folfirinox. We applied the same chemo regimens in a metabolically supported fashion. Together with that, we applied hyperthermia, hyperbaric oxygen therapy and the ketogenic diet supplements and glycolysis inhibitors.

When we published this article back in the year 2016, I'd also like to note that 54 percent of these patients were still alive. Currently, most of these patients are also on follow-up treatments. Most of them still continue to live.

I'd like to share our results regarding median survival time. In the stage 4 patients that have good performance status, there are primary guidelines. The expected median survival time of these chemotherapy regimens for gemcitabine-based protocol is 6.2 months. For folfirinox regimen, this is 11.1 months. In our patient group, we've seen and reported that when these chemotherapy regimens are applied in a metabolically supported fashion, our median survival time was 19.5 months, while 54 percent of these patients are still alive.

We would be publishing an update regarding these patients. Actually, the survival time is over 20 months. The one year survival rate for gemcitabine-based protocol is 20 percent. For folfirinox, it's 48 percent. We've seen in our metabolically supported chemotherapy regimen, it's 82.5 months. This shows how effective metabolic support can change the outcomes of treatments and how effective these kinds of treatments can be.

As all of us know, the most scary cancer diagnosis in the past is pancreatic cancer. Currently in our regimens, we're seeing amazing outcomes. It's just so exciting to see how small differences can change these patients' lives so much.

We will be publishing an upcoming paper that will be on stage 4 non-small cell lung cancer. I'll also explain some of our outcomes in that shortly. But first, I'd like to show you a couple of cases that received treatment at our clinic that had the diagnosis of stage 4 pancreatic cancer.

You can see this 42-year-old male stage 4 pancreatic cancer patient. He was an international patient who came to us from Georgia, a close country to Turkey. You can see the initial PET scan of the patient. He has widespread liver metastasis. Also, you can see the pancreatic mass. On the second slide, we can see the liver tumors and how widespread they are and how metabolically reactive they are. Now, you can see in the control PET scan that was done three months after this patient

started treatment at our clinic, this patient is in complete response and was followed-up for a while more.

This patient was also a drug addict. He had many other complications together with having pancreatic cancer. He received treatment for around one and a half years and later on didn't come to our clinic. He continued treatment and follow-up in his own country. But this patient, even though he was [a] stage 4 end-stage patient and had many complications together with pancreatic cancer and being a drug addict, in three months' time, he got complete response and went into remission.

I'd like to share another patient, a 59-year-old female patient named M.E. You can see the initial PET scan in this patient. She has large liver masses and abdominal masses. You can see the pancreatic masses. She's a stage 4 patient. On the PET scan, you can see "eski" written on top of it, which means old. It's the initial PET-CT of this patient. You can also see that she's 59 years old. We see many patients in this kind of age.

Normally, Professor Berkarda notes that, as all of us know, cancer is known as a disease of old people. But currently, this kind of diet that we have, this modern lifestyle, high-stress, high-carbohydrate diets and many other environmental factors were seen in many patients in this sort of age, in the 30s or 40s.

This female patient was 59 years old. She had stage 4 pancreatic cancer. This is the PET scan a few months after that where we can see a serious treatment response roughly. She's in partial response. There's a serious regression in her liver masses and abdominal masses. This patient, later on continued treatment. She also reached the complete response and is still in follow-up. This is the initial PET scan a few months after it.

I'd like to show one of the most dramatic patients. This is a 70-year-old male patient that has pancreatic cancer. This patient is quite an original patient. He was being followed for prostate cancer at another hospital. Because of the declining quality of life, he went to his physician. His physician ordered a PET scan to be done and they got this result. He was sent back home because he had [such] a widespread disease. They didn't recommend treatment.

He heard about us and what we're doing in treating our patients with widespread disease. We ordered a new biopsy to be done because generally this kind of aggressive disease isn't expected in prostate cancer. If you have a hard time convincing the surgeon to do the biopsy, it's probably because they don't believe that the patient will live, for a couple of days even. But we convinced them to do the biopsy for the proper diagnosis of pancreatic cancer.

We started treatment. He had terrible quality of life. He wasn't able to work at all. In this sort of condition, patients normally won't be eligible to receive standard conventional protocols because of their quality of life status, their liver function and many other medical complications. They are able to receive treatment by the means of metabolic support. I'd like to show the PET scan three months after that. Now you can see that and you can see how regressed and how well he responded to treatment, but he still has widespread disease.

I'd like to show his PET scan three months after that, where we can see that he's in complete response and in remission. This is a fusion image of the PET-CT scan. Normally, you will see tumors in the yellow color. Yellow usually shows metabolic activity. As you can see, there is a complete response and remission. This PET scan was done in October 7, 2016, as you can see on the image. This patient is still in remission and he doesn't have any detectable tumors currently.

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Shortly, I'd like to note that with this patient and also the results that we have obtained in the last five years, you can see how much treatment outcomes can change when they're applied in a metabolically supported fashion. Conventional protocols, there are many shortcomings of standard regimes, not only about survival rates, but also quality of life of patients. The one main concern of these new highly and very expensive new drugs that Travis mentioned [inaudible 30:31] problem is. That some of them have a very marginal effect on survival but they have a dramatic effect on the quality of life of the patients. This is the main concern in using them, besides the high cost that they have.

As you guys can see in the PET scans, we were able to see how outcomes can change by small additions. But it's mainly that we can change the course of this disease and the outcomes when we start thinking differently, when we start looking for treatments that can help these patients that are fighting the most deadly of all diseases. It's just about looking at it at a different angle, having a wider approach to treatment and just searching for things that can help these people. That was where we started out back in 2010. We're just so excited. It's just about reading and looking for things that can help these patients.

We just wrote up our paper on our non-small cell lung cancer patients. All of them are stage 4 patients. We're hoping to publish this paper in the upcoming months. It's currently being evaluated by leading journals to be published. But I'd like to shortly tell the results. People can read it when it's published in more detail. It's a gathering of patients diagnosed with stage 4 non-small cell lung cancer in the last four years. In the paper, we have 44 patients that we have reported about. In stage 4 non-small cell lung cancer, we apply a chemotherapy regimen called carboplatin and paclitaxel regimen.

The guidelines in large scale clinical trials expect the survival time for these patients is between six to 11 months. There isn't any specific trial that enrolled only stage 4 patients with poor performance status, because the main problem with this kind of patients with [inaudible 33:13] disease is that they have very poor performance conditions and quality of life. They generally can't tolerate conventional chemo regimens.

All of our patients in our paper are stage 4 patients, that have advanced disease, we've seen amazing results. In these 44 patients, the overall survival plan is 43.4 months. That's over four-fold than the longest survival time mentioned in any standard chemotherapy regimen and our published scientific data. This is a dramatic result, even though the patient group that we had had more advanced disease and had a poor performance status.

I'd like to show a couple of slides of sample patients. Now you can see a 55-year-old male patient that has non-small cell lung cancer. This is a patient actually that's not in our paper. He's a new

patient. He's the father of my colleagues' father, actually. You can see how large a tumor he has on his left lung. This is the fusion image of that PET-CT where we can see the large tumor again. In three months' time, we can see how well he responded to treatment and the shrunk tumor. This is the fusion image of the follow-up PET-CT. This patient, again, received treatment for three months more and now is in remission currently.

Another patient, a 51-year-old male patient that has non-small cell lung cancer, we can see the large mass at the right upper lobe of the lung and also the other metastasized tumors in the left lung, and also the ribs. This is the follow-up PET-CT scans where you can see how well he has responded to treatment in the lung tumor. This is the fusion image again of the follow-up PET-CT where we can see how small of a tumor is left there. Again, with follow-up treatments, this patient has been put into remission also.

By this, we were able to see that patients who normally were sent home to just wait for the end, to die, and also patients that won't be able to receive treatment, how well they can respond to treatment when we just do interventions that will increase the efficacy of [inaudible 36:21] and also support the general wellbeing. The advantage of metabolic treatments is that they're generally not toxic at all. They support the general wellbeing of the patient while also treating the disease.

In conventional therapies generally, they're very toxic and they affect the quality of life in a serious way, which is a serious problem for patients that have this kind of a disease. But metabolic interventions generally support the general wellbeing of the patient while they're also increasing the survival time of these patients, which is extremely important.

I'd like to show some other patients that have other diagnosed results so people can see how effective this kind of a protocol can be. Now, I'll show a patient who was diagnosed with breast cancer, a 33-year-old female patient. In this PET scan, we can see that she has a large mass in her right breast. We can see how large it is. This is the axial view of the PET-CT. She has a large tumor in the right breast. She's 33 years old.

This is a picture of this patient's breast when she came to our clinic. We can see the tumor. You'd realize this patient coming to the clinic from around 3 meters of space because it's not so bad, actually. This is another picture of the tumor. This patient was so young. She also needed an extremely long time to go to receive treatment because she was just scared of receiving toxic therapies. She was referred to us by another patient of ours.

Now, I'd like to show the PET scan three months after she came to us where we can see the complete response. This is again the axial view of the PET scan. She's in complete response. This is the picture of the breast. You can see how well she has responded. The breast has healed. This is only in three months' time. After I come into this point, we again continued treatment. These results are actually from around three months and three years ago. This patient is still alive and healthy and has a very good quality of life. She's clean of cancer. There's no detectable disease currently.

I'd like to show another breast cancer patient. This patient was 40 years old. She had a large mass in her right breast. This is the axial view with the PET scan. Now, we can see how the breast looked

from outside when she came to us. We can see the tumor. This is another image of her breast before treatment.

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Now, this is the control PET scan that was done three months after it, where we can see that only a very small mass is left around the [inaudible 40:12], with almost complete response. This is the axial view. Now, we can see the healed breast tissue. This patient again responded remarkably. These are results generally that can't even be dreamed of with standard regimes, but it's actually normal to us to see these results currently for the last couple of years.

I'd like to share one more breast cancer patient that came to us from the United Arab Emirates. I'd like to share the story of this patient because she lost one of her sons to cancer at a very young age. She was traumatized from that event. She saw how her son suffered while he was receiving treatment. She refused to receive any kind of treatment. She heard about our treatment and came to our clinic. Actually, we refused for her to come at the beginning because she was hospitalized in her home country. She came in without notice.

When she came in, she had a performance score of three. She wasn't able to walk at all. She was only 38 kilograms when she came to our clinic. We did a PET-CT scan and now we can see her large tumor in her right breast and her left axillary lymph nodes. In this second image, we can see that the cancer has spread to the left breast also. This is the axial view. There we can see how widespread the tumor she has. Her right breast is coming down. She had skin mildews that could be seen clearly.

This is again an axial view of the PET scan. This is a sagittal view from the side. We can see how widespread of a disease she has. It covered all of her skin, coming to her back. This is the control PET-CT two months after she started treatment with us. There we can see complete response. This is the axial view, this first image. This is the coronal view from the front. There we can see that this patient is in complete response.

The main thing to note here is that firstly, this patient and the performance status that she was in when she came to us with that stage of the disease, the length of the tumor. Besides, even dreaming of this kind of response – she was able to live for three months more. That would have been remarkable in standard regimes. We won't expect that patient to live that much actually. But besides living, she was using treatment. She was using chemotherapy in a metabolically supported fashion. Day by day, her quality of life improved even though she was receiving toxic therapies.

But the main thing there is that when we apply chemotherapy with this kind of method, we were able to use much lower doses. Because the effectiveness increases so much, the patient responds together with the treatment response, the weight of this stress on the body decreases. Day by day, her quality of life increased.

Now, it's been around six more months since this complete response was achieved. She's still in remission and will be doing another PET scan two weeks from now. She's in remission for the last six months now. It's been nine months since she came to our clinic. It's just amazing. Currently,

she's around 45 kilos. She gained weight. Her quality of life is almost normal for the last six months.

I'd like to show a couple more patients shortly. This is a gastric cancer patient, a female patient, a stage 4 patient. We can see her abdominal masses and the large spread of liver mass, and also the regions we found results from, as we can see. This is the control PET-CT three months later where we can see complete response. The black dots that we see in the PET images are normal physiological uptake of the kidneys through the fluorodeoxyglucose (FDG). That's normal. Besides that, we can see there's no uptake of FDG. She's in complete response.

Also, I'd like to show another female patient, 45 years old who had soft tissue sarcoma, an aggressive disease. We can see her initial PET scan. She has a widespread disease, especially in her lungs. This is her control PET-CT three months later, where we can see how much the disease regressed. This is what I'd like to show.

We've been doing these therapies for around six years now since 2010. It's just amazing to see how well patients' outcomes can change by applying metabolic therapies. We just started to share our outcomes for the last year or so now. We were also trying to see and be sure that this therapy is working. We're doing statistical milestones with all of our patients currently that received treatment in the last six years. Sometimes [inaudible 47:30] of the patients that received treatment in this long period of time. Even we're shocked how well their outcome was. It's just amazing.

We hope that this kind of treatment will be the standard of care in the upcoming years. We are all trying to share what would work and how we're achieving this kind of results. Other clinics and other physicians will also hopefully start doing similar therapies to us. It's mainly the starting point for clinicians like us. It should be like asking questions like, "How can they improve and help these patients?"

The main advantage of metabolic therapies is that they aren't toxic therapies. They can be applied very easily. It just needs a different mind setting and asking questions and just reading of the literature, actually, which most of us don't do as much as necessary because there's so much literature out there. As an example, we've been doing this for the last six years and we have colleagues that we tell and share our outcomes with, but they just don't read. It's just mainly about having a basic scientific approach treatment and looking at the literature and then applying it and not to be beneficial.

JM: I really appreciate you paving the way for implementing these metabolic therapies because to the best of my knowledge, you're one of the foremost clinical oncology centers doing this. I mean there are some in the U.S. but nowhere near as advanced and as shocking. I think that's the most accurate description of the results that you're achieving.

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When Dr. Seyfried, who saw these results in Tampa two weeks ago, who is really one of the pioneers in promoting this type of therapy, at least from a biochemical perspective – not implementing. He's not a clinician. He's a researcher. He compiled data and presented the evidence, which you obviously read and applied. But he was shocked. He was going around the

conference. His jaw was dropped the entire weekend. He couldn't believe it. The only thing he was talking about was your results. This is just beyond phenomenal. I can't thank you enough.

Again, this is to the best of my knowledge, the first time this information and data has been publicly shared. I'm sure you shared it at some other clinical meetings, but in a public setting, this is the first time. This just highlights the enormous potential. This is the leading edge of the results that can be achieved and rapidly achieved, which you emphasized, with implementation of this therapy.

Let's take it back to Travis because he's such an eloquent presenter and can consolidate some of the ideas that Dr. Slocum just presented.

TC: Wow. There's a lot up there, isn't there? Yeah. To me, like you said, Dr. Seyfried, when this all began with his book – he's the godfather of metabolic therapies in 2012 – this was largely theoretical. There was some clinical work that suggested that it was going to be efficacious. We had no idea. He was out on a limb suggesting these things, the ketogenic diet to patients. But this is exactly what we need. We need this sort of good robust clinical data to go to the next step. This is just the beginning.

It took a very passionate proactive clinician like Dr. Slocum to do this. You could hear it in his voice. He intimately knows each patient. This is coming from a place of genuine desire to help patients. He made a great point that there's so much literature to go through that clinicians sort of turn their brain off and stop trying. I'm so happy that he found this work and did this. We're just getting started. I mean he's implemented some of the very basic steps. But Dr. Seyfried is still in the lab working out the details and others now. This is only going to improve.

Dr. Seyfried and Dr. Slocum met in Tampa. They've started a collaboration to perhaps move some more of these preclinical stuff into his clinic and get even more data. Hopefully a year from now, when we talk about these shocking outcomes, they're even more shocking. Just to summarize, his stage 3 lung cancer paper is incredible. Like he said, they've got very, very tough patients in stage 4. A certain percentage of them aren't going to make it no matter what, but if they can get through this metabolic protocol, the median survival would increase 400 percent. That's incredible.

This stuff basically is free. It just took somebody motivated enough to do this. I mean 2-deoxyglucose (2-DG) is expensive, but ketogenic diet is free. It just takes work. I couldn't be more happy that this data is coming to life.

JM: Yeah. Thank you for that. Thank you also for writing the book, which I neglected to mention, *Tripping Over the Truth: The Metabolic Theory of Cancer,* which first catalyzed my interest in this then caused me to write the book *Fat for Fuel*, which will be out real shortly, that provides patients with the practical details of how to implement the foundational core of metabolic therapy, which is the diet.

Now, that's not the only one. If you just do metabolic therapy, you're not going to treat cancers and get results like this. You have to use a stack of therapy, use multiple regimens like the hyperbaric oxygen, the glycolysis inhibitors, insulin potentiated therapy and others that are still being evolved, but all of them non-toxic is the key to get these amazing results. Thank you so

much for doing that. Thank you also for reviewing my book *Fat for Fuel* and providing some really good insights into that.

This is such powerful work that needs to be shared with so many and give people hope that cancer does not have to be a death sentence, even at stage 4. Obviously if you're stage 1 or 2, it's going to be much easier to treat. The results are going to be phenomenal, beyond phenomenal. The likelihood of dying from that malignancy is going to be very, very insignificant, radically reduced at the minimum. I just think this is going to have such enormous potential.

Dr. Slocum, let's take it back to you if you have any concluding comments or summaries or points that you'd like to emphasize.

AS: One thing that I'd like to emphasize is that as Travis said, let's say the ketogenic diet. It's so effective. It's just about being strict about eating certain things and not eating other things. It needs commitment. What we've seen with our patients generally is that they're busy. We aren't able to be with them every day. They come into treatment. We do our metabolically supported chemotherapy, hyperthermia and hyperbaric oxygen. But then they're sent home.

What affects the outcome also is in their hands, keeping true to their diet, building the supplements that we recommend, and fasting prior to coming to treatment to our clinic. Generally, what we've seen in these last years is that sometimes some patients don't respond as well as we would expect. They do respond, but not as much as we would expect. Then we go deep and ask questions like "Did you follow the diet?" Then it will come out like, "For the last month or so, I'm relaxed more. I started to eat some bread." Then we would say, "Oh. That's why."

As we said, metabolic discipline is just about the disciplined lifestyle. What we tell our patients is that we want to turn this disease. It's not a death sentence. We want to turn it into a chronic disease, similar to hypertension and diabetes that let patients live life long. But it's only about the turning after reaching complete response after doing follow-up treatments for a certain period of time. The patient is sent home. What kicks in then is the basic lifestyle and the discipline that the patient has to apply. We've seen how well diet and supplementation can do. It's just amazing.

JM: Thank you for that. I have one question for you specifically, because we emphasized the point. I think it's appropriate that when you have a life-threatening condition like stage 4 cancer, you've got to be essentially obsessive compulsive. You've got to do this thing to the letter. You cannot veer off in any way, shape or form if you expect to achieve these types of results. Obviously, if it's not such a significant disease, it's not much of an issue.

But we know when we're treating less serious diseases, someone who's seeking to optimize their health or slow down the aging process, a principle that we've uncovered is that you need to cycle. Nutritional ketosis is a powerful intervention, as you've shown. But if you do it continuously, it actually can be counterproductive.

You have to have days where your cycling will actually give them 100 to 150 grams of carbohydrate and more protein, too, especially with strength training to address some of the sarcopenia that occurs in cancer. But when that happens, that refeeding phase, that's when the

magic happens. You get this enormous anabolic shift and then you go back into it. I'm wondering if you're implementing that clinically even in these advanced cancer patients.

AS: Yes. We apply some of our things. As an example, patients come and they're on a ketogenic diet. When they will be coming in for chemotherapy after a 14-hour fast, then that would apply a glycolysis and insulin to lower the glucose and then apply chemotherapy. After applying chemotherapy, on the day of chemotherapy, they are able to eat whatever they want, especially because of the mild hypoglycemia that is caused by supplying insulin. The day of chemotherapy is when they get as much carbohydrate as they want.

Besides that, what we do is, according to the treatment response and the time, patients have a hard time. Every now and then when they're in the clinic, we give them like small kinds of presents, like a small piece of biscuit or like a specific dessert, give them a piece of cake every other three months or so.

It's mainly just like knowing your patient on what they can keep. You have to understand the patient. They're not going to keep to the diet. To have them stick to the diet, when we see them, we give them small treats and say, "Now you have this. Now do your diet until we see you next week." We also do intermittent fasting every other week or so. It seems to be effective.

JM: What is your intermittent fasting? How long are you fasting? Is it like 14, 16, 18 hours a day?

AS: Yeah. Mostly 14 hours. A minimum of 14 hours.

[-----1:00:00-----]

JM: Okay. Great. That is really encouraging because, myself, I try to apply this. I'm obsessive compulsive and I just stuck to it. I didn't do any of the cycling. I never understood or appreciated the importance of it. It sounds like, even in this advanced treatment of stage 4 cancers that you're implementing, it's still working.

I think it also sounds like you're seeking to give them some treats, some extra carbohydrates for compliance. But my guess is it's not just the compliance as you are actually metabolically optimizing their response by cycling them off and on like that. It isn't obviously intuitive. Most people reading Dr. Seyfried's book or seeking to implement themselves would not understand that the cycling is really important.

AS: Definitely. But compliance also is about the treatment. We see patients every other week who are on chemotherapy regimens. There are a couple of different ways for cancer diagnosis, but generally it will be every other three weeks or every other two weeks. We generally tend to do like a week of low-dose weekly chemotherapy as I've already applied. [inaudible 1:01:12] Because we see the patients quite more frequent than general, we generally do that intermittent carbohydrate usage in that specific day.

JM: One final question, I'll let you summarize and emphasize any additional points. You are actively enrolling patients in these trials. I'm wondering if patients from the United States, which

is the bulk of our readers, who are challenged with this conditions, is it possible for them to visit your clinic?

AS: Currently, we actually aren't doing or running clinical trials, but we have a specific treatment protocol, which is based on metabolic therapies. In our publications, we do retrospective analysis of the survival times of our patients and the quality of life of those patients. We get statistically significant results because we gather groups in the last six years of treatments.

Currently, we have many international patients. We have most of them from Europe, a couple from Canada, and also a couple from the U.S. There's also [inaudible 1:02:35]. Of course patients from the United States are more than welcome to come to treatment at our clinic. There are many chartered flights from many airports from the U.S.

JM: Great. If the patients, for whatever reasons, aren't able to go to your clinic on your published protocols, would it be possible if they had an enlightened physician who is open to this type of treatment to implement a similar regimen in their local area?

AS: We hope that there will be physicians open to applying similar regimens to ours. But mostly a lot of patients who aren't able to come to our clinic, they can do it. They firstly have to go on ketogenic diet, which is very effective. Together with that, they should go to their chemotherapy in a fasting state as long as they can stand it, a minimum of 12 hours. We generally recommend to our patients a 14-hour fast. The longer they can take it, the better.

JM: And then a reduced amount of the chemotherapeutic agents. What is the typical reduction? Is it 80 percent, 90 percent less of a dose that you're administering?

AS: It changes according to the patient's diagnosis and condition, but there is a dose range recommended in the guidelines. We tend to go out with the lowest recommended doses.

JM: Okay. The lowest recommended dose is possible to avoid the complications that we see. Alright. Any other summarizing point you'd like to mention or emphasize?

AS: No. Mostly I'd like to emphasize that I hope people out there can see how effective metabolic therapies can be and how they can enhance conventional treatment protocols also. I encourage clinicians out there to ask similar questions to us, to read the literature and start applying similar therapies to ours.

JM: Okay. Back to Travis. Same question, any points you'd like to emphasize or summarize with?

TC: No. That was fantastic. What I would like to say is [that] patients who are confused by the ketogenic diet often don't know the difference between protein and the carbohydrate. That's where they often get tripped up, because they're not sure what a carbohydrate is. Companies are stepping into this fray and making prepacked – I think more than one now – prepackaged ketogenic meals for cancer patients that take out the guesswork.

The ones that I've seen are really, really well done by gourmet chefs and [use] real ingredients. That's another option. There's enough on patients' plates to begin with. Trying to learn this diet, we're coming up with new options now with these prepackaged meals. That's going to take a lot of the guesswork out for patients, I think.

JM: Great. Thank you both for all your contributions. It's greatly appreciated. If you're particularly interested in this for yourself or for someone you love and you're still not convinced, my recommendation would be is to listen to the interview that I did with Travis and read his book, *Tripping Over the Truth*, which will provide the background for as to why this therapy should work and why the conventional approach is fatally flawed.

If you're beyond that point and you've accepted it and really want to strategize how to do it and implement it, then I would highly recommend to get my new book *Fat for Fuel*, which gives you the down and dirty details. It's also going to be a lot of collaborative support. There is going to be a Hay House nine-hour video series that's available, plus a certification course that's being developed with Miriam Kalamian who helped me edit the book. This certification is going to be for any qualified clinician, primarily certified clinical nutritionists, but also physicians, so that they could know how to practically implement this in real time, so there's going to be an army of clinicians that can assist you with this.

Thanks again for developing this resource. Cancer, as we said at the beginning, is killing 1,600 people a day, every day, in the United States, 20,000 a day worldwide. I believe, like most people who've studied this, that the vast majority of these patients are needlessly dying and suffering because they don't have access to this type of information.

[END]