
Dr. Bernd Friedlander: Energy and Regeneration

SVHI Transcript, Transcribed by [Bulletproof](#)

Originally Recorded: 11/2014

File URL	https://www.youtube.com/watch?v=lqv-8DUr7sg
Length	41 min

Speaker 1: I'd like to introduce our, what we should call our short talk speaker for the evening, is Dr. Bernd Friedlander. He's a licensed chiropractor, has a Bachelors Degree in Physical Education with emphasis in Applied Kinesiology from San Francisco State University and a Doctorate in Chiropractic Degree for Los Angeles College of Chiropractic. He's been involved in developing nutritional therapy since 1982. As a result of his therapeutic formulas, he pioneered the research of use of nutrition in free-form amino acids for improving athletic performance as a safe alternative to steroids.

During his career, Dr. Friedlander has served as nutritional and sports injury consultant for athletic members of the track teams at UCLA, USC Berkeley, Stanford and many professional track and field athletes from all over the US. He has also worked with professional players from Los Angeles Rams, Los Angeles Raiders, Los Angeles Clippers, Los Angeles Lakers, and the San Diego Chargers.

Dr. Bernd: I did? I didn't know that.

Speaker 1: [inaudible 00:01:06] Los Angeles there [but in 00:01:06] San Diego. In 1984, he served as a chiropractor and nutritional consultant to the numerous members of the US Olympic Track and Field Teams and US Olympic Crew Teams. Did [that 00:01:17] say [nutritional 00:01:19]?

Dr. Bernd: No. I was also selected as the coach and chiropractor for the US Olympic in '84.

Speaker 1: In the assuming years, Dr. Friedlander has been developing a number of proprietary nutritional formulas. The formula products are designed to maintain and promote health and longevity. You've been working with the [UFC 00:01:39] Florida University College of Pharmacology amongst others. I think that's all I'll say. Everyone, please welcome Dr. Friedlander.

Dr. Bernd: How are you? Let me have this. Hello. Wake up. Stand-up. Get some breathing. Everybody, get this because I summarized everything I'm going to talk about and it's all in this so you'll understand.

Going back into years first in sports medicine, I was directly working in physical therapy and exercise physiology then chiropractics. My whole life was developed in sports and developing nutrition for the athletic performance area. Then I got into UCLA where I became more involved in the athletics, US Olympic, Raiders, Rams. Then I got into a very exciting area of caloric restriction diet and anti-aging.

In '81, I developed and got my devotion and energy and drive to help my father overcome cancer. It didn't work and I started developing and researching cancer probably more than anybody in the world today. Because of that, I have taken on over 14,000 patients in the last 15, 20 years to consult on cancer and other diseases.

I'm currently working with Elizabeth Crabtree at UCSF, was the world-leading expert in Neurology, in MS, and other conditions like that. We're looking at approaches that we can take that are natural to help overcome MS. I've had over a dozen people

completely recover from MS. Not all of them but most to them all recovered. There are certain issues or standards that you can't always help everybody because of stresses and lifestyle and you have to change that and you have to change the emotion.

I'm currently working with Elizabeth Mazzio and Karam Soliman who are, I think, one of the two top people I've ever met in the field of looking at medicinal compounds over 20,000 that have anti-mitotic, anti-tumor, mitochondrial benefits, neurogenesis. We'll talk a little bit about the research that's currently going on there today and some of the exciting areas.

Like everybody, we all have an interest in how to obtain health, longevity. We're not going to reverse it unless we freeze ourselves. I have a refrigerator that I will sell to you and you can go in there. I'll open it up in 20, 25, 30 years and hopefully you'll still be young and we'll have discoveries. That's really what it is.

Everybody says what we want to do is we want to live to 70, 80, 90 and not have arthritis, diabetes, cancer, heart disease. Really. That's really what we want to do. If there's a magic pill that's going to extend your life to 120, 125, and you don't have the genes, forget about it. You have to have a couple different genes, the FOXO and several other genes. Then you can smoke, drink, and live to 90 to 100. If you have that ancestral background, you're good to go. Don't try anything else.

What we want to do is look at how we can maintain our health. There's ways that every disease is correlated to one thing: mitochondrial. It's the first DNA. It's the bacteria, that billions of years ago, that gave birth to everything that happens today, every living systems. It's all researched, studied, and it's the number one thing right now in every institute today.

I talked to Linus Pauling at Oregon Tory Hagen. I spoke with Ray Peat. I spoke with Gilbert Ling. I spoke with the [John Michaels 00:05:51]. These are immunologists, researchers, from all over the world. Everything today in gerontology from UCSF to USF to USC to Harvard, Sinclair, it's NAD, it's mitochondrial. That is what controls everything that goes on. It's the energy source of our selves. It's the organelle that gives us vitality and energy, immune function, repair and regeneration. Without the mitochondrial, we can't do that.

Very interesting, the mitochondria is involved in so many areas. Tory Hagen right now is looking at the cell membrane of the mitochondria. He's discovered that [these 00:06:36] are ceramides, peptides. These are inflammatory peptides and they protect the barrier of the skin. If you want to look 10, 20, 30 years younger, you have to have these ceramide barriers. That's C16.

In the nucleus or in the cytoplasm or the cell membrane of the mitochondria, there are other ceramides that are very important in maintaining the structure of the mitochondria in allowing energy and communication to occur. That's called C24.

These are fatty acids that are so crucial in developing the right ceramides for anti-tumor mechanism or for skin cell membrane and beauty. That's an exciting area.

Today, we're going into a much greater area of mitochondria understanding. Once you understand this, everything can be resolved very easily and it doesn't take a lot of money.

For instance, I want you look at what doctor Dr. [Vice 00:07:40] has done with apheresis which is removal of plasma. I've been looking at that for the last 10 years. There's a compound called GFD 11. It's a molecule that helps to regrow tissue in our own body. It comes from the plasma but you have to clean the plasma and get it from a young plasma of a young individual and put it back into the body. That's where all the [steins 00:08:07] is going today in Europe and all that, is cleaning the plasma and then finding the nutrients that are found in the plasma that can regenerate. That's what they're doing today.

Now, you can do the same thing without spending a lot of money and I'll tell you how to do that. Going to George Askar, A-S-K-A-R, and just look up his research and his science. He is talking about cleaning the plasma to reverse arthritis, cancer, and diabetes, and all kinds a disease. He's talking about cleaning the plasma. That's what it is.

We're going to do it simpler by changing and improving mitochondrial function. An overrule, we know aging and every disease has a mechanism of inflammation, no doubt. We all need information as part of our life but too much information causes diseases, aging. We have arthritic, we have bone diseases, we lose hip, we lose a cartilage. These are inflammatory in the mechanisms.

What they do is the cell under such inflammatory mechanism makes a change and that change is what creates the the problem and the havoc of all diseases. That's what we're going to look at.

Our cells are predominately the [largest 00:09:42], we have more mitochondria than any other cells in our body because otherwise, we couldn't function. It's important to understand that. We're going to talk about how to improve mitochondria function, how to increase the recycling of the junk out of ourselves so that we have a healthier, younger, mitochondria to function and that's Anne Marie Courville's research out there. Anne Marie Courville, look her up, she's a brilliant scientists.

We're going to look at what is aging. Aging is a decrease in metabolic function, really, [in our rate 00:10:20]. The energy and efficiency declines at the cellular level and that's what it does. The organ, the organism, all of that, and increase in inflammation and it's the prolong inflammation. We're going to talk about the key factors how to reduce inflammation.

It starts by decreasing protein renewal and then you have mitochondria dysfunction, is a primary cause of aging. It is linked to every single disease. It's now researched

everywhere. What happens is we have low levels of, one of the key things in all diseases, we're identifying the principal factor. What it is, and even Frank Shallenberger talks about it and so does Robert Rowen.

There's a molecule that we all have called NAD. Every living system: plants, animals, human beings, every system that breathes or lives, even plants; oxidation-reduction, electron transport, electron acceptor, makes energy, ATP. The byproduct of ATP is CO₂ and CO₂ converts in our blood with the hemoglobin and picks up in exchange for iron. Iron brings the oxygen back into the cells and utilizes it for what? Oxidation, NAD.

That's important to understand is this mechanism of CO₂ is the byproduct of energy. This is so crucial because in athletic performance we all train athletes at high CO₂ levels to increase CO₂ levels because that gives more efficient oxidation process to make more energy.

I was a member of the 68th Olympics as a runner and I didn't participate because I only ran track one year. I was a 100 and 200-meter. When we went to Mexico City-the team did, I didn't-it was a high-altitude. I remember the athletes I worked with and I was training with. We're training in high-altitude to get CO₂, to build up the CO₂ in our blood and that's so crucial today.

What happens under Information when it's constant, oxygen levels are low, under Information, and it's due to chemical, environmental, and physical and psychological stress. It's not just one stress. It's many stress.

Like he says, one other things I do a lot and I see a lot and I'm treating somebody with cancer right now. They're right next to an airport. Can you understand? I've been telling people who I've known for years: "Do not live next to an airport because lead is a very toxic component."

One of my patients was about 20 years ago was a patent owner of drilling for oil. He worked with Chevron. He came to me for cardiovascular disease. One of the issues-I was really understanding at that time what was happening-and the problem was he was involved in oil drilling and so he was always involved in that [field 00:14:00]. He was contaminating himself with high lead and other factors.

I asked him one day because someone else told me this. The invention of the airplane was the starting point of all diseases today. That started the chaos [up 00:14:22] all planet, weather problems, and everything. He told me right before he passed away from a heart disease. He was living in Texas so I wasn't able to see him all the time that: "You're absolutely right." It was the discovery of the petrochemical industry that started the whole cascade of what's happening today in our environment. Planes are number one.

I treat a lot of stewardess and pilots for a lot of different conditions. A lot of stewardess with breast cancer, a lot of pilots have seizures because of the high altitude and radiation. That's very common.

I recently had a patient that I sent to [inaudible 00:15:02] about several years ago and she had a massive breast cancer and she was an airline stewardess. She came to me from [Gerson's 00:15:10] clinic. [Gerson 00:15:12] asked me to look at her. I worked with her and I said to her, finding out she's a stewardess, I said, "Until you stop flying, this will not work."

She didn't want to stop flying because that was her financial way of getting her food and paying for their home and supporting her kids. It got 4, 5 years later, we were able to suppress some of the cancer but it just blew out. Then she realized she had to stop flying so I had to go to [inaudible 00:15:45] to get disability and all that. It was kind of late. You're still flying for 20 years, what's going to happen? That's what happens. That's an issue that we have today is that get away from the environment that creates the problem. Otherwise, you cannot repair.

What happens is we have a lot of situations occurring and some of the things is, again, we talk about the mitochondria as being a primitive DNA. That started building blocks to everything. You have to understand how important that is. Without the mitochondria, you and I wouldn't be here.

What happens is it's involved in oxidation. The key thing is oxidation is a major factor of oxidizing glucose. You have to understand that that's the normal process of the mitochondria. It takes electrons, transports it and breaks it down, and makes energy and its oxidation, phospholization.

When we are under a lot of stress or information, what happens is the cell changes, the metabolic rate changes in case of cancer. The cancer goes into a hyper metabolic state and what it does under low NAD levels, we have a molecule that is increased in order to help against low oxygen and low NAD, low oxidation glycation. That is hypoxia-inducible factor 1.

This is one of the pathways that we're looking at today for virtually every disease because it is one of the ways we are looking at blocking. I'll go down here and show you what hypoxia-inducible factor does. Let me go back to here. You have it in this outline.

This is one of the areas I did some research in, was looking at the changes that occur. What happens there are pathways called H1F1. Under low NAD levels, H1F1 reprograms the cells and reverses the program of the mitochondria. It makes it run differently.

What happens is instead a looking for sugar to oxidize for energy, it now goes into another mechanism called aerobic glycolysis. Aerobic glycolysis is a way that all

cancer cells, diabetes, heart disease, now function. Our cell becomes swollen, increase water. Water retains itself and [it pulls in 00:19:03] more sodium.

That swelling excitatory mechanism increases in our cells. That is a component of cancer in fibroblastic tissue. That's why the only way we can measure cancer if it's truly cancer is MRI because MRI measures this T2 wave. It's a wave that is found in the cell that is based on the water molecule and how long it relaxes and how fast it recovers.

If the molecule goes like this and comes back quickly, there's no cancer; but if it's relaxed and takes a longer time, then you know there's a dysfunction in the cell and that water molecule is one of the key factors because all cells are made out of water and proteins. It's called Cells and Gels, the Engine of Life. I want you to get that book: Cells and Gels, the Engine of Life. That's Ray Peat. That's Gilbert Ling and Raymond Damadian.

Raymond Damadian is the inventor of the MRI and the Fonar. In 1970, he got a Nobel Award. I had two and a half hours of conversation with him about this, about water retention, the molecule water in the cells, and the protein and what do they look like. He said they look like gelatin. Our cells are identical to gelatin. That's why collagen gelatin is very crucial. That's why Linus Pauling was involved in Vitamin C, lysine, and proline. What does lysine, Vitamin C, and proline do? It's the precursor to collagen.

Before he passed away, he mentioned how important collagen was to the arteries, the the cell membrane, to the bone, to the immune system. It's the structure that keeps the cells alive with water. It's the molecule of life. That's why Cells and Gels is important to read. It tells you about them.

What happens under stress, any physical stress, NAD levels go down. When we're born, we have a 700 to 1 ratio of NAD to NADH, which is the reduction state. 700 to 1 ration, that is a normal, functioning, youthful cell. It starts declining. The levels of NAD starts declining as we age under influences from epigenetics, from faulty mechanisms, improper nutrition, stress, physical, environmental, chemical, heavy metals, radiation. All of these are factors that you know, that some of the medications you get from your doctors causes mitochondrial dysfunction. I'll show you all the medications that are proven in research to have mitochondrial dysfunction in medication. You can look at them.

What happens is we look at these molecules changes. When NAD becomes low, and there were scientists today that have monitored this in cancer patients, that every single patient that has cancer has extremely low NAD levels. The body goes into a reduction state and that's what happens. Under those conditions, NAD leads to hypoxia-inducible factor 1, which leads to aerobic glycolysis, which makes the cells use a different method for energy.

What it does, it goes after your protein anywhere in the body. It doesn't look for sugar anymore so sugar has nothing to do. By suppressing sugar, you're doing the

wrong thing. Every cancer patient that I see that comes in [inaudible 00:23:04] I'm working with the National Cancer Research Foundation. They're the only group that has proven to work in cancer research.

You'll see they're all on a Atkins type of diet. They're on a paleo diet. That's what has, they have the studies and the science thing you can look at it. Every patient that has nothing to do with sugar, what happens? Why? They start losing weight, they lose muscle, [fatigue 00:23:31], because the cells start breaking down our own protein called fatty acid synthesis, FAS. Look it up and Google it. [PubMed 00:23:42], you'll see over a hundred thousand publications on FAS right now as one of the top leading research in the area of blocking cancer cells.

By inhibiting fatty acid synthesis, that's one of the [many 00:23:59] areas that we're looking at for all cancer. What happens is the fatty acids, the body, the mitochondria now shifts to an aerobic glycolysis from pyruvate to lactate. That mechanism breaks down our protein for fats. It looks for fatty, it oxidizes fat.

That's how it survives. That's how it makes energy. That's how it makes the cancer grow and spread. Hypoxia-inducible factor is the beginning process to do that and then fatty acids come in there and the fatty acid synthesis is a big factor and it's all in this here. You can look it up.

The other thing is when you have that happening, another pathway gets involved: mTOR is another pathway. Everybody's looking at stopping aging by inhibiting mTOR pathway. Lookup Richard Miller. He's an MD, PhD. He has a whole article, scientific paper on mTOR and how to block that, how to inhibit that, because it causes faulty protein synthesis. It causes misfolding protein, which is glycation. It increases reduction state. It lowers thyroid function, all of that, and that's due to amino acids tryptophan, methionine, and cysteine.

Read about it. There's a lot of research on restriction of amino acid tryptophan, methionine, and cysteine, and how that affects inflammation, glycation, aerobic glycolysis, oxidative damage, kidney damage, liver damage, and thyroid dysfunction. This is [that science 00:25:44]. It's right there. A matter fact, when I was doing caloric restriction diet, I found that you can do the same thing by reducing these three amino acids and get the same results, identical results. It's published in [PubMed 00:26:00] right now and all that.

Another area that also changes immediately when you have hypoxia-inducible factor, fatty acid mTOR, another pathway which is very crucial is IGF-1 insulin growth factor. Every scientific institute today are looking at how to reduce IGF-1 because it can control diabetes, heart disease, and it's also linked to cancer. IGF-1 also raises when NAD levels are low in the mitochondria. It's all due by one mechanism: the nuclear factor of the mitochondria NAD [nicotinamide 00:26:46] functions of the oxidation of the mitochondria, so the oxidation factor.

If you go back to the 80s and 70s and 90s, you'll find that if you actually increase your oxidative state and the metabolic rate, you'll live longer. They've done clinical studies in animals and then they're shown in human's who lived to 90, 100, they have a very high oxidative state, meaning their NAD levels are high. That's why Frank likes to use and Robert use ozone therapy because supposedly ozone significantly increases NAD levels. It does in some way by the oxidative state and it can do that.

All these at communication patterns are disrupted now. Protein synthesis is disrupted so cell communication is completely dysfunctioning and so our cells are looking for a challenge. They need a challenge to repair themselves. Some of the things we can do to reverse that, I'll talk about it in a few minutes.

Today in cancer research and if you look at any research in cardiovascular disease, if we can only do one thing is increase NAD. That has more merit than anything else out there.

How many of you heard of the Calgary study that came out way back in the 80s and 90s and it was on Charlie Rose, it was on Larry King about DCA, dichloroacetate? How many have seen that? DCA is very powerful. You know that it was taken off the market here because it's one of the most effective treatments for cancer. DCA, what it does basically, it suppresses an enzyme in the mitochondria that goes from pyruvate to lactic acid. The problem with lactic acid and part of the aerobic glycolysis, it forms free radicals.

Now there's evidence and measurements that they've seen that in all cancer, diabetes, heart disease, Alzheimer's, Parkinson's, arthritis, and aging, a high-level of free radical damage, ROS. That is a byproduct of low NAD, high IGF-1, high fatty acid synthesis, mTOR, increased mTOR pathways, and IGF-1. These are all connected, these pathways. They control oxidation, reduction states. All of these are linked to these high levels of, by producing from pyruvate to ATP and CO₂, they go to lactate.

One of the problems with lactic acid is that in the inside of the cell, it becomes a high pH. All cancer cells according to Raymond Damadian and all his research since 1970, looking at MRI and looking at hundreds of thousands of patients, we have a increase in pH.

People would think it'd be the opposite, right? No. It's increase in pH. The outside of the cell is highly acidic because of the lactic acid. What the problem is also, our natural killer cells that are ready to attack these cancer cells will not attack the cancer cells because lactic acid interferes with natural killer cells and b-cells. It actually inhibits their function. This is in literature. Look up Lactic Acid Immunity in Cells. It's available.

There's also a multi-drug resistance factor that's found in all cancer cells discovered over 20 PhDs and it has ability to regurgitate all chemicals, radiations, because a cancer cell is very intelligent. It wants to survive. It has an immortality. It has unlimited telomeres, those enzymes that are in the chromosome of the end of the strings that

look like shoelaces. They have immortality but they also have a chemical compound, a protein compound that regurgitates chemo or radiation or anything. It [sends a tour 00:31:34] a normal cell which has no protective.

They also have a glycoprotein mechanism around the cell which is human chorionic gonadotropic hormone which is stimulating pregnancy all the time in that cell. Look up Acevedo's work, [Hernan 00:31:52] Acevedo, A-C-E-V-E-D-O-S. Look at his 40,000 cultures studies. He's a pathologist at the Philadelphia Cancer Clinic. He was given 40,000 cultures of cancer patient from literally every cancer institute to identify the common denominator. Mitochondria dysfunction and HCG, he said to me. There is a vaccine for that but you won't hear it or see it.

What happens is genes have a way to shut themselves down and go into a different method of energy. We're going to look at these factors I just talked to you about, reprogramming themselves and all that.

What do we do? One is that in order to reverse disease, we want to look at a couple of things. I don't have enough time but let me go into a very exciting area that we can really work on even more than what I said here.

One of the simplest molecules we can all take on a daily basis, 500 to 1,000 to 1,500 milligrams of niacinamide. Niacinamide and niacin are directly precursors to NAD. If I have time, I'll share with you five patients that have [in the recently 00:33:17] and she'll tell you she was there when she heard that they were in total remission with their cancer after 6, 10, 15 years is by giving certain nutrients that [warned 00:33:28] more than maybe 5, 7 bottles.

Another thing that helps with mitochondria function is Biotin, B1, B2. All the B-complex are important; CoQ10 like folic acid, very important. Not so much C and E. It wasn't shown to really have that effect in [raising 00:33:48]. PQQ is a biogenesis that only helps mitochondria but has nothing to do with really NAD levels.

There's a lot of research going to areas of what's called, and I wrote it down on you. This is more recent. This one I just put together last night and today. NR is another compound that is [solved 00:34:09] by ChromaDex. ChromaDex is a company that is doing research on NAD. Their whole emphasis on NAD. It's a niacinamide [derivals 00:34:20] complex and it comes from cow's milk. They isolate it from cow's milk.

Now they're using NR and has great ability to increase NAD. Life Extension is selling it, so is Swanson, and so will be almost every single company in the United States once they find out what it does.

Interesting enough, I was talking to Ryan, the head director in research for ChromaDex [and NR 00:34:48] and I told him what I'm doing and he's very excited. I told him to look at colostrum and look at breast milk. They said that the highest level of NR of this molecule is found in breast milk. You understand how important breast milk is for the child. They're going to isolate this molecule from colostrum because it's

double the potency and it's a lot less expensive. Meanwhile, niacinamide works wonderful.

Another thing that I wrote down that's very important is in our research with Florida [AM 00:35:32]. We have a lot of things. DCA is one of the best things to change the pyruvate lactate back to CO₂. DCA is phenomenal. I'm just going to tell you it's phenomenal. If it's used with methylene blue.

How many of you know about methylene blue? You're bright. You know what it does, right? Methylene blue is going to be the most exciting area besides C60. Methylene blue has anti-aging mechanisms. It has anti-inflammatory mechanism, anti-oxidant mechanism, but it is one of the most potent anti-tumor mechanisms we know of. In combination with DCA, they work similar by redirecting the aerobic glycolysis back to oxidation of glucose, which is the normal way you want the pathway to work. Methylene blue is going to be another exciting area and there's an article coming out by Ray Peat next month.

Another area that we look at is Vitamin K. K is very crucial for everything: mitochondria, bone density, cardiovascular function. Now, you can get it from K1. You know what K1 is, right? K1 is cheap and it's literally the cheapest molecule out there if you buy K1. K2, K4 is very expensive because in order to make K2 and K4 work, you have to use 30 to 40 milligrams a day to get the effects. Where K1, 2 milligrams is all you need. It converts in the liver and in the liver converts to K2, 4, and 7. That's how simple it is.

Another area we're looking at, I said restriction of amino acid. We have seen the studies on it and it's validated by science. These three amino acids, if we reduced the amounts of these three amino acids: tryptophan, methionine, and cysteine, it will also give you the same results as a caloric restriction diet by reducing the oxidative damage in glycation and it also prevents aerobic glycolysis by reducing it. That's why, again, collagen is the only non-inflammatory protein on the planet today because it also suppresses MMP-9, which is what you've seen in the last slide. It also helps with bone and cartilage and connective tissue which builds your immune system.

Speaker 1: [inaudible 00:38:14]

Dr. Bernd: Let me just share. Do you see this right here?

Speaker 1: Wrap it up.

Dr. Bernd: In our recent screening of cancer by Florida MM, we have discovered these compounds right now to be on the very top list as an anti-mitotic, antiproliferating mechanism. You cannot use just an anti-mitotic herb. You have to use both: anti-mitotic and antiproliferating mechanisms. Frankincense, wild yam, always comes out number one and two in every screening that they've done and they've done over 200 screenings of cancer.

Recently, we're screening for breast cancer, glioblastoma, small cell carcinoma, leukemia, and prostate. We're doing metaline blue right now and we're doing a few other things. If you see in some in this what the key is to these compounds is knowing the right amount to take and how to take them and what the extraction levels are and the whole plant levels are. This is exciting.

Let me share one more thing: EGCG. EGCG is coming out as individually one of the best anti-mitotics, antiproliferating, and it will knock out ebola virus. It stops the cell replication of any virus. That's how it works. It also does that with cancer, stops the cell replication.

There's a published paper that was just recently done on EGCG as having that kind of function. There's a lot more I can talk to you about energy medicine but we're going to do a whole section on it next year, and some exciting things on rebuilding.

Speaker 1: Great. Thank you [very much 00:40:06]. Really, we we need to give you more time [with the teacher 00:40:10]. No time for questions. I'm sorry. We have to pack up and get out but I'm sure we can answer one [of your 00:40:18] questions if you'd like to come over and ask. Thank you for attending tonight and we'll see you next month.