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	GFX Center **dLife** **For Your Diabetes Life!**	**VO 1** **dLifeTV, the only show for your diabetes life. Packed with information, insights, cooking, and real stories about real people. dLife brings it all together to help you life a healthy diabetes life.**
	Various shots of upcoming segments.	**VO Nicole Johnson Baker** **Today on dLife, we examine diabetes and eating disorders; learn the early warning signs. And a frank talk with one young woman who has dealt with this overwhelming challenge. Plus the diabetes scientist whose cutting edge research is raising hopes for a cure. And as always, real stories about real people living with diabetes.**
	Shot of Nicole Johnson Baker. **Shot of Christina Hanford.**	Nicole Johnson Baker Welcome to dLife, your source for a healthy diabetes life. I'm Nicole Johnson Baker. We begin today with a disturbing new trend; people with diabetes who intentionally manipulate their insulin dose and run up their blood sugar levels as a way to lose weight. When the body doesn't have sufficient insulin, glucose from food can't be processed into cellular energy and thus weight loss is the result. It's been dubbed "diabulimia." Eating disorders are on the rise among high school students everywhere, but teens with diabetes, they face a unique pressure. Like most of us or all of us with diabetes, they must constantly focus on the food they eat. So joining me now is Christina Hanford. She has type 1 diabetes and for most of the last decade she has struggled with eating disorders. So, Christina, thank you for being here.
	Shot of Nicole Johnson Baker interviewing Christina Hanford.	Christina Hanford Thanks for having me, Nicole.
		Nicole Johnson Baker When were you diagnosed? How old were you and what was your reaction?
	Lower Third: **Christina Hanford**	Christina Hanford

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	Type 1 Diabetes	I was ten years old when I was diagnosed with diabetes. I was really terrified and I went back to school and was more concerned with what people thought of me and I thought that I should just go on with my life and pretend like nothing really happened. So I didn't really let myself have feelings or emotions about being diagnosed with an illness.
		Nicole Johnson Baker Do you think some of that suppression of those emotions led to some of the challenges that you faced?
		Christina Hanford Absolutely. I think that I felt that I was at fault for being diagnosed with this disease and that I needed to harm myself, treat myself badly because that's what I deserved. Not knowing how to deal with life, I started kind of using food and insulin manipulation as a way to deal with these feelings that I wouldn't express.
		Nicole Johnson Baker Hmm. So what were you doing with the food and the insulin manipulation?
	Lower Third: **People with type 1 need insulin to process food for energy.**	Christina Hanford First of all, I started to restrict my food intake so that I would have to give less insulin. And then eventually, through years and years of manipulating, I would not give insulin. In fact, sometimes I would eat meals and I would actually go to the gym and exercise and give absolutely no insulin. My blood sugars would run over 500 constantly, many times 700. I would frequently go to bed not knowing if I was going to wake up the next day.
		Nicole Johnson Baker So what happened to the weight in terms of numbers? I mean how much weight did you lose?
	Various photos of Christina Hanford.	Christina Hanford I was about 99 pounds, 100 pounds. I went to my endocrinologist and my hemoglobin A1c level was about 8 which was <laughs> very good compared to

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	Lower Third: **Without insulin the body digests muscle & fat, causing weight loss.**	where it went. Things became worse. Because of the starvation, I had not had my period for almost three years and some other health problems. I ended up with heart damage in addition to bone loss.
		Nicole Johnson Baker So what was the turning point for you?
	Lower Third: **Type 1 females may have an elevated risk for developing eating disorders.**	Christina Hanford I had an appointment with, actually, my psychiatrist who was an eating disorders specialist. She was very aware of this diabetes and this manipulation of insulin levels and she told me that if I did not go that she would court order me into the hospital. And the thing is I wanted to get better so desperately, but I was terrified of seeing an endocrinologist because I was so scared of what they would think about my diabetes and how bad my control was.
		Nicole Johnson Baker When did you start receiving treatment for all of these different disorders to help you get out of that cycle?
		Christina Hanford November 2003 was the first time I entered treatment for my eating disorder. I was in a hospital facility so they had an endocrinologist come visit and speak with me. My doctor was really incredible and very aware of the fact that my eating disorder and my diabetes were so intertwined.
		Nicole Johnson Baker Did they take away the ability for you to personally be the one that's managing your insulin?
		Christina Hanford Yes.
		Nicole Johnson Baker Like I know you wear an insulin pump.
		Christina Hanford They even had <laughs> people take my blood

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		tests for me so the control was no longer mine and it was so scary.
		Nicole Johnson Baker What do you say to the young women, young men that may be suffering with some of these issues to help them shake out of that pattern and to realize that they do want to get better and that they do want to feel better and that they can have control in a healthy way?
		Christina Hanford This is not about weight. This issue, it's about control. When you're diagnosed with a disease like this, it's something you have absolutely no control over. What I would say to young adults and teenagers that have thought about manipulating their insulin levels or have thought about wanting to do this to lose weight is that first of all, it's absolutely deadly and I think the most important thing is for you to realize that you are worthy of living a happy, healthy life.
		Nicole Johnson Baker Yeah, exactly. Well, let's take it one step further and give advice to those that are outside, the parents, the caregivers. How can they identify that something might be going on with one of their loved ones and that they might be suffering from a condition like diabulimia?
		Christina Hanford People who tend to do things like this are probably struggling a little bit with depression and I think if you notice that your child may not be talking to you as much, might be isolating a little bit, might not be eating in front of you, maybe you don't see them give their injections as frequently or maybe they get a little bit aggressive or frustrated when you speak to them about their diabetes control.
		Nicole Johnson Baker Well, we have a lot more to learn about this topic and a lot more research needs to be done, so thank you for enlightening us and thank you for being so

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		brave and courageous to share your story.
		Christina Hanford Thank you so much, Nicole.
	Lower Third: **www.dLife.com/eatingdisorders** **Shot of upcoming segment.**	Nicole Johnson Baker If you or your child is dealing with diabetes and an eating disorder, visit dlife.com/eating disorders for more information and support. Coming up next, the groundbreaking diabetes research that's sparked both controversy and hope. Is a cure just around the corner?
	GFX **dLife** **For Your Diabetes Life!**	
	Shot of Howard and Dr. Faustman on stage. **Lower Third:** **Howard Steinberg Creator, dLife**	Howard Steinberg Harvard scientist, Denise Faustman, is probably the most famous and controversial diabetes researcher in America today. Using diabetic mice, she figured out how to stop their immune system from attacking the cells that produce insulin, allowing them to recover and essentially curing type 1 diabetes in mice. She's now ready to test her theories on humans. Some have questioned her conclusions, but the FDA has approved clinical trials that are expected to be underway soon and there's no denying that her work is something you need to hear more about. We're pleased to have Dr. Faustman with us today. Welcome, Dr. Faustman.
	Shot of Howard interviewing Dr. Faustman.	Dr. Denise Faustman Thank you, Howard, for inviting me.
		Howard Steinberg Dr. Faustman, you began your career transplanting islet cells in mice and then something changed and you got on the pathway you're on today. Tell us more.
	Lower Third: **Denise Faustman, MD, PhD** **Harvard Medical School**	Dr. Denise Faustman Uh… yes. In fact, I got recruited to Harvard Medical School to set up an islet transplant program so we started transplanting type 1 diabetics with islets,

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		with immunal suppression and unfortunately, the experiments started to fail. So we decided to go back to the lab to try and improve on what we could do for type 1 diabetes.
		Howard Steinberg And that's how you got to regenerating beta cells rather than transplanting islet cells, right?
		Dr. Denise Faustman That's true. That was a ten-year journey, but that's how the journey occurred.
		Howard Steinberg Well, I believe we have some animation of how it works in the body, so let's go to that.
		Dr. Denise Faustman Great.
	GFX **dLife** **For Your Diabetes Life!** **Various animation shots.**	Dr. Denise Faustman The concept of what we're trying to do is get rid of the bad T cells that are causing type 1 diabetes and bad T cells are part of a bigger class of white blood cells. So for type 1 diabetes, it's your white blood cells attacking your insulin-secreting beta cells in your islets. And what's really unique about what we're trying to do is we think for the first time, we can identify those bad T cells and kill them. And our goal was to get rid of those bad white blood cells to come back in with an islet cell transplant because of course, if you had longstanding type 1 diabetes, you didn't have any insulin-secreting cells left. What we found was that the islet transplant, the insulin-secreting to cell transplant to restore normal blood sugars was not needed in this animal model. Once we got rid of the bad white blood cells, the islets in the pancreas were regenerated and rescued. So our primary goal as we translate this work to humans is get rid of the disease and sit back and see if humans can similarly regenerate the islets in their pancreas.
		Howard Steinberg So right now, you have cured diabetes in mice. You

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		have a lot of happy mice running around without diabetes.
	Lower Third: **Dr. Faustman's lab has reversed the defect in the immune system in mice.**	Dr. Denise Faustman We have very happy mice and the mice at Mass General Hospital are cured of their disease and now the question is can we similarly do that in people with type 1 diabetes of all stages?
		Howard Steinberg You're not without your critics and it's been a controversial study and your research has been controversial.
	Lower Third: **"End-stage" refers to a complete inability to produce insulin.**	Dr. Denise Faustman Yes. In 2001, we published a peer review paper that for the first time showed you could reverse end-stage diabetes in a very end-stage animal, and that paper showed for the first time that removal of disease allowed a regeneration of the pancreas. The controversy was of course regeneration to that degree had never been observed before. When you and I are born, we have our hair turnover, our skin turns over, but you don't re-grow your pancreas, you don't re-grow your heart, and you don't re-grow your lungs. And now the data's started to show in this animal model that removal of the disease allowed the re-growth of a portion of an organ. The million dollar question is in humans with longstanding diabetes, can we do the same thing?
		Howard Steinberg Um hmm. The Journal of Science tried to replicate your studies and they weren't completely successful in duplicating what you were doing. They- they did confirm some aspects of the study, but some others they had some trouble with.
	Lower Third: **Endogenous regeneration occurs naturally; assisted regeneration requires an islet transplant.**	Dr. Denise Faustman Yes. Uh… they actually confirmed that three separate groups could cure end-stage diabetic mice like us. The debate now is whether the regeneration in the pancreas, the restoration of blood sugars only from endogenous regeneration or assisted regeneration from other cells that are put

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		in. If you're a type 1 diabetic mouse, you could care less, and if you're a type 1 diabetic human, you could care less. So it's a great confirmation of our data.
		Howard Steinberg The controversial nature and the whole world of funding research in diabetes and in other sciences and other disease states creates challenges for money. It's all about funding. And you were able to generate funds in new and creative ways with Lee Iacocca getting involved in helping raise money. Can you share a little bit about that story?
		Dr. Denise Faustman Yes. Traditionally, when you get to this stage of research, you partner with pharmaceutical companies in order to launch a new drug or a new compound. One of the ways in which we're going to get rid of the bad white blood cells is to use a generic drug. It's a generic drug that costs about fifteen dollars a vial. Since we were moving forward with a very cheap, inexpensive way to possibly reverse or halt or slow down this disease process, those kinds of partners weren't available. On the other hand, partners like Lee Iacocca could care less whether the drug's fifteen dollars a vial or thirty thousand a vial. He wanted data and he wanted results. And so he launched a public fundraising campaign to fund through the phase 1 portion of this clinical trial to get it tested in humans.
	Lower Third: **Dr. Faustman's human clinical trial is scheduled to begin in 2007.**	Howard Steinberg Yeah, I think Lee was asking for a dollar from every diabetic in the USA. So how far away are we? Am I going to see a cure in my lifetime?
		Dr. Denise Faustman Well, we never like to make promises that we can't fulfill, but we think that in your lifetime, in your soon lifetime, we'll be testing in humans and that's the most important thing, to logically bring this forward step by step to see if we can make happy humans as much as we've made happy mice.

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		Howard Steinberg I've had diabetes for thirty-seven years and I've been hearing about cures for a long time. And after awhile, I stopped listening and assumed that someone will tell me when there's a cure and I'll go to the doctor's office and be cured. So why should I believe this is the one?
	Lower Third: **To keep up-to-date on diabetes research visit dLife.com.**	Dr. Denise Faustman I don't think there will ever be one cure for diabetes. I'm hoping for many, many cures for diabetes. So it would be wonderful to say to somebody like yourself with type 1 diabetes, "You have five choices." Today, you have zero choices for being off insulin permanently. We're moving forward with one of those choices that we think we show promise and that's our goal.
		Howard Steinberg Great. Thank you, Dr. Faustman, for being with us today. Very interesting discussion.
		Dr. Denise Faustman Thank you, Howard, for inviting me.
	Various shots of upcoming segment.	Howard Steinberg Up next, staying motivated and in control despite the challenges of kidney dialysis treatment.
	GFX Center **dLife** **For Your Diabetes Life!**	
	Lower Third: **Nicole Johnson Baker** **Various shots of Ben Gray.**	Nicole Johnson Baker Ben Gray lives in Chicago. He has lived with type 2 diabetes for fourteen years and three times a week he is connected to a kidney dialysis machine that literally cleans his blood. It's difficult and it's time-consuming, but as you listen to Ben talk, you realize that diabetes complications don't have to defeat you.
	Lower Third: **Ben Gray** **Dialysis Patient, Type 2 Diabetes**	Ben Gray My name is Ben Gray and I'm a diabetic. I have type 2 diabetes. I work for the city of Chicago and I

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	Various shots of Ben Gray.	get up in the morning, get ready and hit the street. I didn't know that diabetes and kidney failure were like, they're like hand in hand so to speak, one will start the other to happening, otherwise I would have jumped on it seriously in 1992 when I first was diagnosed with it. I'd have changed my diet right away, probably wouldn't have ate any more cookies and ice cream and I would have went to the club more, I would have dropped twenty pounds right away. A couple of years later when things started getting worse, then I realized I got to take this thing seriously. I got to finally going to dialysis because I was at the lowest point that I could get to. My legs were swollen, my feet were swollen, I couldn't get into my shoes, high blood pressure, impotence. You know, these are things that they don't tell you about. And when things start happening to your body that it's not working normally, you got to get that checked out right away. 'Cause I kept saying I'm going to try this a little longer to try and fight it off until I finally said okay, set it up.
	Lower Third: **There are two types of dialysis: hemodialysis & peritoneal dialysis.** **Various shots of Ben Gray having dialysis treatment.**	Doctor With your goal 5.5, you're running for four hours.
	Lower Third: **During dialysis, an artificial membrane cleans toxins from the blood.**	Ben Gray Dialysis is a form of- it's like an artificial kidney in a sense. It acts and does the things that my kidney no longer does. You know, I don't urinate the same, your body does not excrete the toxins that are in it so once your kidney starts failing, you need this to live. I come to dialysis after work.
	Shot of Ben at work talking to construction man.	Ben Gray: How are you doing? You got a permit? Man: Yeah, but I don't have it with me. I switched trucks.
	Various lifestyle shots of Ben Gray.	Ben Gray Each session for myself is like four hours three days a week, but if it means living, it's not a big deal, not a big choice to make. My doctor said, you know, "Your kidney is failing and you might consider going on dialysis because eventually you will start feeling

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	Various shots of Ben Gray having dialysis treatment.	bad and if you don't do it in time, you could die." My significant other supported me a hundred percent, wanted to make sure that I was eating right, doing the right things, that I followed up on all the stuff that my physician said that I should do and to actually getting here as soon as I could to take care of this and also pursue a transplant. They ask for a lot of tests before you can even be put on the list so they're not just giving you a kidney because you need one. Most of the transplant centers also want you to be in pretty good general overall good condition and everything else.
	Shot of Ben Gray talking to dialysis technician.	Ben Gray: Mikey, I think my blood pressure's getting a little low. Mikey: Is it? Ben Gray: 113. Uh… yeah, I don't want to have a scene here so maybe shoot me a hundred.
	Lower Third: **Dialysis is typically needed when 85-90% of kidney function is lost.** **Various shots of Ben Gray having dialysis treatment.**	Ben Gray I'm very active. I question things. I ask questions, I find out. I have them explain everything to me because I want to know what's going on. A dialysis patient has to help themselves too. When they give you your labs back which they check once a month and they show you what's high or what's low or what you need to do, you got to get this down, you got to take care of that.
	Lower Third: **Learn how to stay on top of kidney health at dLife.com.**	Ben Gray And you realize you still have a chance to straighten things out and still have a pretty good life. And you start realizing how important life really is and you got to do something.
	GFX Center **dLife** **For Your Diabetes Life!** **Shot of Nicole Johnson Baker.** **Various shots of upcoming segment.**	Nicole Johnson Baker Thanks, Ben, for showing us how to find the motivation to meet diabetes challenges head on. When dLife returns, no time to cook? Join the club. We'll show you some healthy ready-made meals that are low in carbs.
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	Lower Third: **Nicole Johnson Baker** **Shot of Nicole Johnson Baker.** **GFX Center** **dLife** **For Your Diabetes Life!**	Nicole Johnson Baker As someone who has children, a career, and diabetes, I don't have much spare time, but that doesn't mean I can't eat healthy food. Our guest chef, Franklin Becker, has some easy off the shelf meal ideas. You can find his recipes on dLife dot com and in Diabetic Cooking Magazine.
	Lower Third: **Chef Franklin Becker** **Type 2 Diabetes** **Shot of Chef Franklin Becker.** **Various shots of ingredients.** **Various shots of Chef Franklin Becker preparing salad.**	Chef Franklin Becker Welcome to the dLife kitchen. I'm Chef Franklin Becker and I'm here to teach you about some quick and easy off the shelf dinners you can prepare at home for those of us living with diabetes. So today, we're going to prepare a wonderful chicken salad made from all off the shelf ingredients. We have bagged, packaged salad mix, we have some peppers, some cucumbers and some scallions along with some orange and lemon, we have some olive oil, and we have of course a rotisserie chicken to complete this meal. So let's get started. You know, when- when you're dealing with packaged salads, the one thing you want to always remember is wash them. They can be full of E. coli, a terrible bacteria that you certainly don't want to ingest. What I'm going to do is I'm actually going to make the vinaigrette. The vinaigrette is made with half a lemon and a quarter of an orange and I'm just going to squeeze that into a bowl. If you don't want to use orange because it's a little higher in carbohydrates, you can substitute a little bit of vinegar or you can increase the lemon juice, whatever you'd like to do. To this, I'm just going to add a little bit of olive oil and together that's going to form a citrus vinaigrette that's going to dress our salad. I'm going to take my rotisserie chicken and I'm going to break it down and I'm just going to actually pull the meat and just throw it right into the marinade. That's going to really provide a nice lift to this chicken and really make this salad delicious and flavorful. I'm going to leave the skin off, though, because, you know, you don't need to eat those extra calories. So to that chicken, I'm just going to add some salad greens that I washed before, a little bit of cucumber which I

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	Rotisserie Chicken Salad **Calories: 322** **Carbs: 15g** **Fiber: 7g** **Protein: 26g** **Total Fat: 19g** **Shot of Diabetic Cooking Magazine.** **Lower Third:** **You can also find great recipes and food ideas in Diabetic Cooking Magazine.** **Visit dLife.com/recipebox for Chef Becker's recipe.**	diced earlier, some scallions or onions you can substitute for scallions. Basically, it's up to you. When you're shopping in the supermarket, you just want to see things that you like. You don't have to use these ingredients necessarily, but what I'm trying to show you is that it's really easy to eat healthy, mind your carbs and still have dinner on the table in fifteen minutes or less. So I'm just going to take this over to the plate. You know, I made my own salad dressing with a little bit of lemon, orange and olive oil, but you can easily choose one of the low-carb alternatives off the shelf. So I bet you never thought quick and easy could look this great. Great-tasting recipes like these and useful nutritional information are in every issue of Diabetic Cooking Magazine. Log onto dLife dot com for this recipe and more. I'm Chef Franklin Becker. Thank you. Enjoy.
	Shot of Nicole Johnson Baker.	Nicole Johnson Baker Thanks, Chef Becker. Up next, a dLife tip.
	GFX Center **dLife** **For Your Diabetes Life!**	
	Lower Third: **Richard Bernstein, MD** **Diabetologist & Author,** **Diabetes Solution & Diabetes Diet** **Shot of Dr. Richard Bernstein**	Richard Bernstein, MD If you've handled food, skin lotion or glucose tablets before checking your blood sugar, you can get an artificial increase in the reading so be sure to wash your hands first. If you can't find a sink, just lick your finger off.
	GFX Center **dLife** **For Your Diabetes Life!** **Shot of Nicole Johnson Baker.** **Lower Third:** **Hear more from today's guests on dLife Backstage Podcasts at www.dLife.com.** **dLifeTV on CNBC next Sunday 7 p.m. ET/4 p.m. PT**	Nicole Johnson Baker That's all the time we have. We'll be back again next week with another edition of dLifeTV to inform, inspire and connect for a healthy diabetes life.

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	To order a copy of any dLifeTV episode, visit www.dLife.com/orderdlifetv.	
	GFX Center **dLifeTV is produced by LifeMed Media and does not represent the views or opinions of CNBC, Inc.**	
	Credits roll. **Shot of Nicole Johnson Baker at side of screen.**	Nicole Johnson Baker Remember, we are not role models. We are people living with diabetes just like you. What we do and how we manage may work for us, but everyone is different and you have to work with your diabetes caretaker to find out what is best for you. Remember, it's your dLife and there is no substitute for getting control of it.
	GFX Center **Life Med media**	