Diabetes Isn’t Just High Blood Sugar: Insulin Resistance Explained Transcript

(Transcripts are generated by AI and may contain errors)

Introduction and lifestyle caveat

If you have type 1 diabetes or love If you have type 1 diabetes or love someone who does, I want you to someone who does, I want you to hear this clearly.

hear this clearly.

Case study disclaimer and patient background

Lifestyle can profoundly change Lifestyle can profoundly change health, insulin sensitivity, health, insulin sensitivity, medication needs, and medication needs, and quality of life, but it is not a quality of life, but it is not a home cure for type 1 diabetes. I recently home cure for type 1 diabetes. I recently reviewed an unusual case that reviewed an unusual case that illustrates both the extraordinary power illustrates both the extraordinary power of changing what we can control of changing what we can control and the danger of drawing and the danger of drawing universal conclusions from a single universal conclusions from a single person's outcome. So what can person's outcome. So what can this case really teach us without creating this case really teach us without creating false hopes? I am Dr. Fred false hopes? I am Dr.

Exercise, diet, and early improvement

Fred Bloom. I practice integrative and Bloom. I practice integrative and holistic medicine, which means I try holistic medicine, which means I try to understand how the to understand how the different parts of a different parts of a person's health fit together rather than treating each person's health fit together rather than treating each symptom as if it came in its own little symptom as if it came in its own little box. I make these videos for people box. I make these videos for people who want a thoughtful and who want a thoughtful and clinically sound understanding of their health.

clinically sound understanding of their health.

Why the case is unusual

If you find this helpful, you can like the video, subscribe to the like the video, subscribe to the channel, and hit the channel, and hit the notification bell. You can also notification bell. You can also subscribe to my newsletter subscribe to my newsletter for deeper conversations for deeper conversations between videos. And please share your between videos. And please share your experience in the comments. Their experience in the comments. Their questions often show me where questions often show me where another explanation is needed, or another explanation is needed, or sometimes a little sometimes a little medical unlearning. Before proceeding, I must medical unlearning. Before proceeding, I must make an important distinction. The make an important distinction. The person in this case was not my patient. I did not diagnose him, I did not supervise his.

Type 1 diabetes, insulin, and spectrum of disease

I did not diagnose him, I did not supervise his treatment, nor did I treatment, nor did I independently verify every detail of his independently verify every detail of his medical history. I am discussing his medical history. I am discussing his story as a case study because it story as a case study because it raises valuable questions. This should not be raises valuable questions. This should not be interpreted as medical advice or interpreted as medical advice or as evidence that someone with as evidence that someone with type 1 diabetes can safely stop taking insulin type 1 diabetes can safely stop taking insulin. This individual was. This individual was diagnosed with type 1 diabetes diagnosed with type 1 diabetes as an adult after experiencing as an adult after experiencing severe symptoms. He had a dry mouth, severe symptoms. He had a dry mouth, profound fatigue, impaired vision,

profound fatigue, impaired vision, extremely high blood sugar, extremely high blood sugar, and ketones in his urine. He and ketones in his urine.

Lifestyle changes and broader health gains

He was already developing was already developing diabetic ketoacidosis, a diabetic ketoacidosis, a life-threatening emergency, and required life-threatening emergency, and required immediate treatment with insulin.

immediate treatment with insulin. This was not a situation where This was not a situation where his lab results were his lab results were technically normal while he was technically normal while he was feeling unwell. Their results were feeling unwell. Their results were profoundly abnormal and the danger profoundly abnormal and the danger was real. Without urgent treatment, he was real. Without urgent treatment, he could have progressed into a coma could have progressed into a coma or died. After leaving the or died. After leaving the hospital, she began to change her life. He hospital, she began to change her life.

Why the story is not a cure claim

He quit smoking, started quit smoking, started exercising with a trainer, exercising with a trainer, joined a gym, joined a gym, gradually increased the frequency and intensity gradually increased the frequency and intensity of his workouts, and began of his workouts, and began paying more attention to his paying more attention to his diet. The changes were not diet. The changes were not drastic at first. His first drastic at first. His first training session left him with difficulty training session left him with difficulty climbing stairs. That detail can climbing stairs. That detail can be one of the most useful parts of be one of the most useful parts of the story, because the transformation the story, because the transformation often seems unimpressive at often seems unimpressive at first. It often begins with being first. It often begins with being tired, sore, and slightly tired, sore, and slightly offended by the existence of offended by the existence of stairs. Over time, he became stairs. Over time, he became more athletic and slender. Her more athletic and slender. Her body fat percentage decreased body fat percentage decreased considerably and, reportedly, her insulin requirement was reduced.

, her insulin requirement was reduced. I had been using I had been using rapid-acting and long-acting insulin. Over time, her long-acting dose.

Medicine, lifestyle, and sustainable change

Over time, her long-acting dose became very small and she became very small and she stopped taking it. Later, he ate stopped taking it. Later, he ate a high-carbohydrate meal without a high-carbohydrate meal without injecting insulin, checked his injecting insulin, checked his blood sugar 2 hours later, and found it blood sugar 2 hours later, and found it remained normal. Then, he stopped taking remained normal. Then, he stopped taking insulin completely. Years insulin completely. Years later, he reported that he still wasn't later, he reported that he still wasn't using insulin. That's remarkable, but using insulin. That's remarkable, but remarkable doesn't automatically mean remarkable doesn't automatically mean generalizable. Classic type 1 diabetes generalizable. Classic type 1 diabetes is generally considered an is generally considered an autoimmune condition. It is believed that the autoimmune condition. It is believed that the immune system attacks the immune system attacks the cells of the pancreas that produce cells of the pancreas that produce insulin. When a person can no longer insulin. When a person can no longer produce enough insulin, produce enough insulin, insulin is not optional. Exercise insulin is not optional. Exercise cannot counteract cannot counteract diabetic ketoacidosis, and determination cannot diabetic ketoacidosis, and determination cannot replace a hormone that the body replace a hormone that the body requires to survive. The case requires to survive.

Limits of conventional care and deeper evaluation

The case itself introduces a more itself introduces a more nuanced possibility. Diabetes does not always fit nuanced possibility. Diabetes does not always fit neatly into two clear categories. Some adults may exhibit. Some adults may exhibit characteristics of both type characteristics of both type 1 and type 2 diabetes. A person may 1

and type 2 diabetes. A person may have impaired insulin production have impaired insulin production along with along with insulin resistance, and it can take time to understand insulin resistance, and it can take time to understand where that individual falls on the where that individual falls on the spectrum. That uncertainty may spectrum. That uncertainty may help explain help explain this man's unusual outcome. Perhaps he retained more this man's unusual outcome. Perhaps he retained more insulin production capacity insulin production capacity than someone with established classic type 1 diabetes than someone with established classic type 1 diabetes. Perhaps reducing.

Monitoring, safety, and who this may apply to

Perhaps reducing body fat and improving body fat and improving physical fitness greatly decreased physical fitness greatly decreased his insulin resistance, his insulin resistance, allowing the insulin he was still allowing the insulin he was still producing to work more producing to work more effectively. Perhaps its effectively. Perhaps its original classification did not capture the original classification did not capture the full picture. And perhaps more than one of those full picture. And perhaps more than one of those explanations is true. What explanations is true. What we cannot responsibly conclude is we cannot responsibly conclude is that exercise and diet regenerate that exercise and diet regenerate insulin production in all insulin production in all people with type 1 diabetes, or that people with type 1 diabetes, or that other people can reproduce this other people can reproduce this result if they simply try hard result if they simply try hard enough. That conclusion would not only enough. That conclusion would not only be medically unsafe, it be medically unsafe, it would also be unfair. People living would also be unfair. People living with type 1 diabetes do not use insulin with type 1 diabetes do not use insulin because they lack discipline. They use it because they lack discipline. They use it because their bodies need it. If one because their bodies need it. If one person achieves person achieves insulin independence under unusual circumstances, insulin independence under unusual circumstances, that does not mean that another person has that does not mean that another person has failed because they did not achieve it. The failed because they did not achieve it. The most profound lesson is not that most profound lesson is not that anyone can cure type anyone can cure type 1 diabetes. The lesson is that a diagnosis 1 diabetes. The lesson is that a diagnosis does not negate the value of improving the rest does not negate the value of improving the rest of the body. This man did not of the body.

Individual biology and the role of diagnosis

This man did not initially set out to prove that he could quit initially set out to prove that he could quit insulin. He wanted to be insulin. He wanted to be fitter, thinner, and healthier.

fitter, thinner, and healthier. In the process, he reported improvements that In the process, he reported improvements that went far beyond went far beyond blood sugar. She no longer needed medication blood sugar. She no longer needed medication for high blood pressure. Her for high blood pressure. Her back pain improved, her migraines back pain improved, her migraines resolved, and she felt stronger resolved, and she felt stronger and healthier than she had before and healthier than she had before her diagnosis. Even if he had her diagnosis. Even if he had continued taking insulin, those continued taking insulin, those results would still have been results would still have been important. This is where I think important. This is where I think conventional conversations conventional conversations can become too limited.

can become too limited. A person receives a diagnosis, is A person receives a diagnosis, is prescribed the correct medication, and the prescribed the correct medication, and the discussion can end there. The discussion can end there. The medication can be essential, and in medication can be essential, and in type 1 diabetes, insulin saves type 1 diabetes, insulin saves lives. But treating the disease does not lives. But treating the disease does not mean we have finished mean we have finished caring for the person. Physical condition caring for the person. Physical condition affects how muscles use affects how muscles use glucose. Body composition can glucose. Body composition can affect insulin sensitivity.

affect insulin sensitivity.

What the case really teaches

Dietary choices influence how Dietary choices influence how quickly blood sugar changes quickly blood sugar changes. Smoking affects. Smoking affects cardiovascular risk; Stress, cardiovascular risk; Stress, recovery, physical strength, and recovery, physical strength, and daily habits also interact daily habits also interact with the overall clinical picture. None with the overall clinical picture. None of that makes insulin of that makes insulin unnecessary for someone who unnecessary for someone who needs it. This means that medicine needs it. This means that medicine and lifestyle are not and lifestyle are not opposing philosophies. They are different tools opposing philosophies. They are different tools that serve different purposes.

that serve different purposes. There was a time when medicine There was a time when medicine often presented often presented lifestyle advice as a lifestyle advice as a brief instruction. Eat better, exercise more, brief instruction. Eat better, exercise more, and come back in a few months. What and come back in a few months. What experience makes clear is that experience makes clear is that meaningful change rarely arises from meaningful change rarely arises from vague instruction. It is developed vague instruction. It is developed through gradual and through gradual and sustainable adjustments, adequate support, sustainable adjustments, adequate support, careful measurement, and honest feedback.

careful measurement, and honest feedback. In this case, the coach didn't try to In this case, the coach didn't try to change everything in just one week. She change everything in just one week. She used a food diary, used a food diary, checked it regularly, changed one checked it regularly, changed one item at a time, and item at a time, and gradually increased the physical challenge.

Holistic care and the final takeaway

That gradually increased the physical challenge. That sequence matters. Sustainable improvement sequence matters. Sustainable improvement is generally built through is generally built through adaptation. Why can adaptation. Why can the broader pattern be overlooked?

the broader pattern be overlooked? Medical appointments are short. Different Medical appointments are short. Different specialists focus on different specialists focus on different organs, and medication changes organs, and medication changes are easier to document than the are easier to document than the slow rebuilding of slow rebuilding of a person's physical capacity. This system is usually a person's physical capacity. This system is usually very good at identifying very good at identifying an emergency, but less consistent an emergency, but less consistent at helping someone build a at helping someone build a healthier life after the healthier life after the emergency has passed. The fire goes out. Everyone is relieved, and. Everyone is relieved, and comparatively little attention is paid comparatively little attention is paid to why the building is still full of to why the building is still full of smoke. See the complete pattern before smoke. See the complete pattern before changing the questions we ask.

changing the questions we ask. Instead of just asking which Instead of just asking which medication controls this number, I medication controls this number, I also want to know what type of also want to know what type of diabetes it appears to be, how much insulin diabetes it appears to be, how much insulin the person may still be producing, whether there is also, whether there is also insulin resistance, how the blood sugar responds insulin resistance, how the blood sugar responds to food and movement, to food and movement, how treatment needs change, how treatment needs change, and whether the and whether the original classification still fits the original classification still fits the evolving clinical landscape. Those evolving clinical landscape. Those questions belong in a questions belong in a careful medical evaluation. They are not a license careful medical evaluation. They are not a license to experiment by omitting insulin. If you use insulin, never reduce or. If you use insulin, never reduce or stop taking it based on this video or someone stop taking it based on this video or someone else's story.

else's story. Changes in Changes in insulin requirements should be evaluated by a insulin requirements should be evaluated by a qualified physician and with qualified physician and with appropriate monitoring. Symptoms such as excessive thirst, appropriate monitoring. Symptoms such as excessive thirst, frequent urination, nausea, frequent urination, nausea, abdominal pain, rapid breathing, abdominal pain, rapid breathing, confusion, severe fatigue, confusion, severe fatigue, very high blood sugar, or ketones require very high blood sugar, or ketones require immediate medical attention.

immediate medical attention. Diabetic ketoacidosis can progress Diabetic ketoacidosis can progress rapidly. This discussion may be rapidly. This discussion may be especially relevant if you were especially relevant if you were diagnosed with diabetes in diagnosed with diabetes in adulthood, if your clinical course does not adulthood, if your clinical course does not clearly fit into the category you were clearly fit into the category you were given, or if your given, or if your insulin needs have changed substantially insulin needs have changed substantially as your weight and fitness have changed. It as your weight and fitness have changed. It may also be relevant if your may also be relevant if your diabetes treatment controls diabetes treatment controls your glucose, but the rest of your health your glucose, but the rest of your health seems neglected. He may not seems neglected. He may not explain his situation. Many people explain his situation. Many people have clear and established type 1 diabetes have clear and established type 1 diabetes, and will continue to need, and will continue to need insulin no matter how insulin no matter how carefully they eat or how carefully they eat or how physically fit they are.

physically fit they are. Individual biology matters. Also, the Individual biology matters. Also, the duration of the disease, duration of the disease, remaining pancreatic function, remaining pancreatic function, insulin sensitivity, other insulin sensitivity, other medical conditions, and the treatments medical conditions, and the treatments the person receives. My conclusion is simple.

Respect the diagnosis, respect the Respect the diagnosis, respect the medication, and do not underestimate the health that medication, and do not underestimate the health that may still be within your reach. The may still be within your reach. The most significant revelation from this most significant revelation from this man was not simply that he stopped taking man was not simply that he stopped taking insulin. It was the diagnosis that he insulin. It was the diagnosis that he initially experienced as a threat that initially experienced as a threat that became the event that motivated him became the event that motivated him to quit smoking, be physically to quit smoking, be physically active, improve his nutrition, and take active, improve his nutrition, and take responsibility for the parts of his responsibility for the parts of his health that he could influence. In other health that he could influence. In other words, diabetes saved his life. That's the possibility I want to. That's the possibility I want to leave you with. Not the promise of a cure, leave you with. Not the promise of a cure, but the recognition that but the recognition that necessary medical treatment and a necessary medical treatment and a holistic approach can coexist.

holistic approach can coexist. Sometimes, the wisest approach is not to Sometimes, the wisest approach is not to choose between conventional medicine and choose between conventional medicine and lifestyle. It's about ceasing to ask them to lifestyle. It's about ceasing to ask them to compete against each other. Has compete against each other. Has your diagnosis ever motivated you to your diagnosis ever motivated you to make changes that improved other make changes that improved other areas of your health? Has anyone areas of your health? Has anyone explained to you the difference between reducing explained to you the difference between reducing insulin resistance and insulin resistance and restoring insulin production?

And would you like me to explore the And would you like me to explore the differences between type 1, differences between type 1, type 2, and mixed diabetes in an type 2, and mixed diabetes in an upcoming video? I look forward to hearing about your upcoming video? I look forward to hearing about your experience.