

PREVIEW_ Jason Fung - Presentation (Manchester 2017)

Dr. Jason Fung: You have 10-year-olds with type 2 diabetes. If you look at the prevalence in pediatric centers of diabetes clinics, type 1 used to be like 95% of the diabetic clinic. It's 50-50 now. So 50% of the people in a pediatric diabetic center are type 2s.

Now it's very hard to say that these 10, 12-year-olds that have type 2 diabetes have burned anything out, like nothing on their body has burned out. So it's really... for sure it's wrong. And that's what we have to try and understand.

What is leading to the pancreatic beta cell failure? Because you have to understand that. So what is insulin resistance? This is really the new paradigm. So you got to understand that in physiology what happens is that you eat food and you increase insulin. Insulin is the signal for our body to store food energy.

That's natural, that's normal; so you eat, insulin goes up, your body stores food energy. You produce glycogen in the liver or you turn it into fat, which is de novo lipogenesis, you store body fat.

So you store sugar and fat and as you don't eat, as you fast, insulin levels drop and again that's the signal to start pulling back out that food energy, that glycogen. You break down the glycogen and if you don't have that then you'll break down your fat cells which is lipolysis.

So insulin for example turns on lipolysis, you burn fat and glycogenolysis which is breakdown of glycogen. So this is a natural cycle and that's the reason you don't die in your sleep every single night, is because you have stored energy and you don't need to keep pumping it in your body to do that. So insulin actually does two things.

So not only does it put the glucose into the cell, which is the normal function that we think about, but it also turns on this kind of stores, so it turns on de novo lipogenesis. So you're going to store energy as your insulin goes up.