

PREVIEW_ Benjamin Bikman - Presentation (Breckenridge 2018) 1

Dr. Benjamin Bikman: Okay, now let's get into the story then. So here's the pancreas. In fact I had to pick this image for fear of using an image that looked a little dirty. But I hopefully... this is the pancreas, tucked underneath the stomach and of all the myriad cells the pancreas has, cells that are involved in endocrine functions, cells that are involved in digestive or exocrine functions.

We want to zoom in on the beta and the alpha cells. And these are famous because they produce insulin and glucagon respectively. And insulin and glucagon... What's interesting is that they're produced right beside each other in these little pockets of cells within the pancreas.

And yet they're enemies in a way and they're each antagonizing the other in almost every possible biochemical event. If insulin is trying to do something glucagon is trying to stop it. If glucagon is trying to do something, insulin is trying to stop it.

So it's pretty much like my kids. Nevertheless we see insulin, to quote Mike and Mary Dan Eades, because they said it well... Insulin is the hormone of feeding and storing and glucagon is the hormone of fasting and burning.

What that means then in a bigger, biochemical sense is that insulin is a hormone of anabolism or building things up, taking simple molecules and making them into something bigger and keeping it and then glucagon wants to take the complex molecule and break it down, usually breaking it down into an energy source that the body can then use.

So it is catabolic, it is one of those fundamental or prototypical catabolic hormones. Whereas insulin is the prototypical anabolic.