

## Learning about life through leptin research



**Ron Rosedale, MD**

What is life? Some of the best minds in the world have been mulling over this question for decades and nobody has an answer, Dr. Ron Rosedale said at Friday's General Session. He went on to say that all we know for sure is that life is "not dead." What is health? It certainly must be tied to life. If I want you healthy, I certainly want you alive. If you're dead you're not healthy. We know that. On that subject, what is death? If you examine the composition of the body before death and after, it is very similar. The cells of the body can be kept alive for a remarkably long time independent of the body. What dies is not the parts but the interaction of the parts.

Because there are not clear cut definitions for what sustains health, we make them up. Directions on how to be healthy are sometimes given, but no defined destination. You can give direction all you want and it will take you somewhere and if that somewhere is what you define as health then you are satisfied. For instance, there is no such thing as good and bad cholesterol. The body requires cholesterol to live. Yet we say that reducing cholesterol is a good thing.

A drug was developed that was proven to reduce cholesterol, yet it increased mortality and incidence of cancer. They finally had to stop testing the drug because too many people were dying. In fact, more people were killed than helped during testing. That drug is still on the market. Why? Because it effectively lowered cholesterol. So you died with lower cholesterol.

Another test showed that a drug dramatically reduced blood sugar in diabetics. But they had to stop the

study because so many people in the treatment group were dying. Yet we supposedly know lowering blood sugar is a good thing, so what is going on here? They're not recognizing what a disease is. They don't know what to treat.

If I'm lying there dead you can measure all of my parts. Carbon, hydrogen, nitrogen, phosphorous, oxygen, and you'd find they're virtually identical to life. Cells can live independent of the body and be kept alive for an indefinite period. Virtually every cancer institute in the world has cultures of Henrietta Lacks' cells. Henrietta Lacks died of cervical cancer in 1951. A section of her tumor was placed into a petri dish, bathed in nutrients. The cells multiplied at a rate unlike anything witnessed outside the human body. It was a breakthrough in cell research. Researchers studied the cells of Henrietta Lacks to determine what dies in the event of a heart attack. Few cells die. What dies are not the parts but the interaction of the parts working as a collective republic. Each of us is a republic of cells, a society that works in harmony and remains healthy through effective communication between the cells. All disease, without exception, is due to failure in cells to communicate effectively.

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***-Ron Rosedale***

People regularly get their cholesterol levels checked but how many have had their leptin levels tested? No life can exist without cholesterol, and leptin tells all the other cells what to do. Leptin is perhaps one of the most important structural agents we have in the body. You cannot have life without cholesterol. The chances of cholesterol causing heart disease are

## ***Learning about life through leptin research (continued)***

absolutely nil. Our liver creates cholesterol to keep us alive, not to kill us. There is no such thing as good and bad cholesterol, it's just cholesterol.



You have to look at disease in a different way. Disease is never going to be due to the heart. If cholesterol doesn't know where to go it goes to the wrong place. Diabetes is not a disease of blood sugar, not at all. At the very least, you can say it is a disease of insulin communication. Either the signal is too much or too little, so your sugars go up. Even that is a kindergarten way of looking at it. We know that, just like leptin, insulin is controlled by other hormones.

We can learn a lot by knowing nature's purpose for us. What does nature want from us? There are two biological imperatives that need to take place for life to take place. To eat and to reproduce. Nature wants the instructions to pass on from one generation to the next. Nature wants to keep us around long enough to accomplish those goals. That's why the information has to survive. We have a complex system of turning genes on and off. Hormones work by telling the genes what to do. If genetic expression determines health, we have to determine which ones to turn on and which to turn off. Turn off the genes that give you disease and turn on the ones that protect you. That's what nutrient sensors are

all about, that's what insulin and leptin are about. If you control leptin you control everything else.

Many labs are now measuring levels of leptin but most doctors don't know what it is. Leptin is a hormone made by fat. People become diabetic the same way they become obese, through hormone resistance. People with type-2 diabetes, and 95 percent of all diabetics are this type, have too much insulin, but it's not able to work because the cells have stopped listening. They are overexposed and start behaving as if insulin is too low and become diabetic. The same thing happens in leptin resistance. The cells that have to listen to leptin are really critical. Even though most cells have to listen there is a critical area of your brain, the hypothalamus that controls everything else. We now know that leptin, which is produced by fat, controls your hypothalamus.

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A person may wonder why he gets fat in his forties when he eats the same thing he ate in his twenties, when he was skinny. Then the lines of communication were open but lines slowly close like an old telephone wire and we become leptin and insulin resistant. As the line of communication from your fat to your brain becomes corrupted, you start getting fat. The message doesn't get to your brain, you start becoming leptin resistant and start making more leptin. The hypothalamus hears low leptin even though your fat is saying high leptin. The hypothalamus tells you to eat more, be hungry, make more fat and don't burn the fat you've got, so you get even fatter. If the brain doesn't hear the message you will not be able to burn fat and if you don't burn fat the only other fuel

## ***Learning about life through leptin research (continued)***

you can burn is sugar. But you don't store that much sugar and don't have a lot to spare. You start craving sugar and carbohydrates.

When you get fat you put it in all the wrong places. If I had to condense everything I know about health into one sentence, it is this: Your health and your life span will be determined by the amount of fat and sugar you burn over a lifetime. If you burn fat you will be healthy unless you get run over by a truck. If you burn sugar you're not going to be healthy. When you're burning sugar your leptin and insulin levels are high. When burning fat, leptin and insulin stay low and you increase maintenance repair and tone down cellular reproduction. Why is that good? When you're constantly revving up cellular reproduction what does that lead to? Cancer. That's not hypothetical. We know that's the case. Almost all cancers are associated with high levels of insulin and or leptin. When you keep those levels low, your risk of cancer goes way down—tenfold.

Leptin controls virtually everything. It controls your body temperature, insulin and every other hormone in your body. It controls not just whether you are fat but where you gain weight. Belly fat chokes off your liver so it can't produce insulin, and therefore produces too much sugar. It chokes off your pancreas; it chokes off your heart. Belly fat is really bad. We know now that visceral fat and belly fat is controlled also by leptin. That's extremely important.

Life is not in the parts. It is only in the instructions and communications between the parts. We're all made of the same parts. Your heart cells and liver cells and kidney cells all have the same genetics. There is not a single difference in the genes. Genetic expression is affected by your hormones. If you change leptin and insulin, you will change five to ten thousand genes out of the 16,000 to 18,000 we've got. That's huge. You change who you are, how you think, how you behave, how healthy you are by changing leptin. You change leptin by changing what you eat. Your fat controls your brain by way of leptin and then your brain controls everything else. That's an important thing to know.