Unlock Your Healing: Peptides Explained

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Hi, it's Dr. Jen. Welcome back to another mini-talk, and I hope you find these helpful. I'm so glad to have you here at the Peptide Summit. What is a peptide? Let's talk about peptides in the definition, in case you just need that you can come back here and be what a peptide is. A peptide is a short chain of amino acids linked together by peptide bonds, and amino acids are the building blocks of proteins. Peptides are smaller fragments of protein, which is what you could think of them as, and peptides can vary in length, ranging from just a few amino acids to a dozen amino acids. We'll have ones that are little GHK-Cu, which are just three. Then you get into that nuance of, well, what about thyroid regulators? They're for fewer amino acids.

It's fun to talk about peptides because there are so many, and most of them are already found in our bodies. A peptide is composed of two or more amino acids linked by peptide bonds. This is where we get to the nuance, where that's at least where it is: GHK-Cu, three peptides. Then it could go up to, usually, about 50. Then it's considered a protein. This is where it becomes nuanced because there's no strict definition. A chain of amino acids that reaches a certain length is then considered a protein rather than a peptide. Peptides can range in size, as I said, from just a few amino acids to a dozen, and they play crucial roles in the biological processes throughout the body. They act as signaling molecules, hormones, neurotransmitters, enzymes, and other functions.

Some peptides have particular functions and regulate physiological processes such as growth, metabolism, immune response, and cell communication. In the context of medicine and biotechnology, peptides have gotten a lot of attention for their potential therapeutic applications, which we found out about during the summit. They're so broad and amazing. There are peptide-based drugs, and these are peptide therapeutics, and these are there to design or mimic the natural peptide functions in the bodies. These are the ones you're getting from your compounding pharmacies. These drugs can be used to treat various conditions. Hormonal disorders and metabolic diseases are music disorders, cancer, and infectious diseases; they're just such and have a broad application.

Due to their small size and how they can specifically target certain processes in the body, they offer such an advantage because they are very specific for what you need them to do, as you will find out. For example, BPC 157, if you take it orally, is very specific to gut health. GHK-Cu on your skin, which is very specific to the skin, and thymosin beta-4, which is very good for the immune system. They're very specific, and they have low toxicity and low side effects compared to drugs or larger protein-based drugs. There are natural peptides in the body. I think that when people say peptides, they get overwhelmed. They get weirded out, especially doctors. I'm okay. Well, insulin is a peptide. Insulin is a peptide. It's produced by the pancreas. Insulin regulates our blood sugar levels by promoting the uptake of glucose into our cells for energy or storage. Glucagon is a peptide. It's also produced in the pancreas. Glucagon increases blood sugar levels by stimulating the liver. To reduce that stored glucose in the bloodstream.

Another peptide that's used in functional medicine is oxytocin. oxytocin—that's that love hormone. This plays a role in social bonding. This is why you're supposed to hug someone for 10s or more to release that oxytocin, which I find would be hard to hug someone just for 10 seconds unless it was a family member. But maybe we should all do that more. Oxytocin plays a role in childbirth and lactation. I know, as a breastfeeding mother, that's so relaxing. You just get that release of oxytocin. You could go back to sleep if you had to nurse in the middle of the night. Oxytocin is released during childbirth and breastfeeding. It promotes that you're in contraction during milk production. You can get actual oxytocin from the compounding pharmacy. It's used for different purposes. It's cognitively and sexually used in different ways.

Pitocin is a pharmaceutical for the peptide oxytocin. This suppressant antidiuretic hormone is a peptide in our body that regulates our water balance. Growth hormone is a peptide. It stimulates growth, cell production, and regeneration in humans and animals. This plays a key role in childhood growth. Muscle mass maintenance and metabolism regulation. Growth hormone is one of those that we possess. CJC 1295. We have Tesamorelin and Ipamorelin. They are gross growth hormone-releasing peptides. They're not growth hormones. They help your body secrete growth hormone because, as we age, growth hormone does decline. Glucagon peptide one, GLP-1. We've heard of those. Yes. You make this, and then we have the Semaglutide Ozempic and Wegovy. GLP-1 in the body, which is secreted by the intestines in response to food intake. GLP1 regulates insulin secretion, glucose metabolism, and how you feel about your satiety.

It's so cool. Peptides are awesome. Most of these peptides that we are using are found in our body for important functions. When you look at peptides, think of them as something amazing that can help your body do specific, targeted things. Just giving your body a little boost to get back to homeostasis. That's what a lot of peptides do. especially since we're living in such a toxic world with so much stress. We're all juggling so many things that peptides can help you get back into that balance if you get off track. Thank you so much. I hope you enjoyed this mini-talk, and I will see you guys at the summit.