Matching the Right Peptide to Your Injury

People often ask, People often ask, “What peptide is “What peptide is best for best for healing?” But healing?” But perhaps this is not the perhaps this is not the question to question to start with. It's better start with. It's better to ask: what kind of to ask: what kind of damage are you damage are you dealing with? Is this a dealing with? Is this a torn tendon?

torn tendon? Is this a painful inflammation of the intestinal lining? Or is it intestinal lining? Or is it chronic chronic chronic joint inflammation? And these three joint inflammation? And these three types of pain require types of pain require three very different three very different types of signals. Welcome types of signals. Welcome back to my back to my podcast. I am Dr.

podcast. I am Dr. Greg Jones, a naturopath and founder of founder of Innovative Wellness Center here in Innovative Wellness Center here in Phoenix, Arizona.

Phoenix, Arizona. Today we’ll Today we’ll talk about the five talk about the five best best best healing peptides I healing peptides I see most often in see most often in clinical practice.

clinical practice. We will discuss what these We will discuss what these peptides are, how they peptides are, how they work, what work, what mechanism of recovery mechanism of recovery or pain relief is or pain relief is behind them, and what behind them, and what injuries or pain each injuries or pain each of them is of them is best suited for. A quick best suited for. A quick warning before we warning before we begin: this is educational begin: this is educational content, not medical content, not medical advice. The use of advice. The use of peptides should be peptides should be individualized under individualized under the supervision of a the supervision of a the supervision of a qualified qualified qualified professional. So, professional.

BPC-157 for Tendon and Ligament Repair

So, let's define the basic let's define the basic rules. This is not a rules. This is not a ranking from ranking from best to best to worst or a worst or a top five list. It's top five list. It's simply five different simply five different tools to tools to address five address five different types of different types of damage. The peptides damage. The peptides we will talk about today we will talk about today can can can directly directly directly restore the restore the restore the structure: tendons, structure: tendons, ligaments, or connective ligaments, or connective tissue. Some of them tissue. Some of them mobilize the body's own mobilize the body's own repair repair repair cells. What we will we will discuss today can discuss today can strengthen the systemic strengthen the systemic signal that signal that makes any makes any recovery possible. And one of recovery possible. And one of them will turn off the inflammation, them will turn off the inflammation, which is actually what which is actually what causes the pain.

Let's start with BPC-157, the " original", original", original", the most famous of them all, the most famous of them all, BPC-157. Most of you BPC-157. Most of you already know that BPC-157 is a already know that BPC-157 is a 15- 15- 15- amino acid peptide amino acid peptide found in our found in our gastric juice.

gastric juice. The body already has The body already has receptors for it and receptors for it and ready-made pathways for its ready-made pathways for its absorption. So how does absorption. So how does it help you it help you heal? BPC-157 heal? BPC-157 stimulates angiogenesis.

stimulates angiogenesis. This is the growth of new This is the growth of new blood vessels at blood vessels at sites of injury, which sites of injury, which is often a real is often a real bottleneck in bottleneck in tissues that tissues that heal slowly, such as tendons. And I want tendons. And I want to clarify one to clarify one point. You can often point. You can often hear that BPC-157 hear that BPC-157 increases the number of growth hormone receptors. This is a rather growth hormone receptors. This is a rather generalized generalized generalized statement.

statement. statement. Studies Studies Studies actually show actually show that it increases growth hormone receptors on growth hormone receptors on tendon fibroblasts, and that's an tendon fibroblasts, and that's an important distinction.

important distinction. BPC-157 also accelerates BPC-157 also accelerates the migration the migration the migration of fibroblasts and their of fibroblasts and their growth from the site of growth from the site of damage. This damage. This accelerates the appearance of accelerates the appearance of cells that are cells that are directly directly directly involved in involved in involved in repair. What repair. What about the pain itself?

about the pain itself? The mechanism of action of BPC-157 The mechanism of action of BPC-157 indicates a pronounced indicates a pronounced analgesic effect, which is realized, which is realized through our through our peripheral and peripheral and central nervous central nervous systems. And this operates systems. And this operates separately from the separately from the tissue repair process.

tissue repair process. I would like to note that I would like to note that clinical data on the clinical data on the effects on pain in effects on pain in humans is still limited to humans is still limited to small pilot small pilot studies.

studies. studies. The mechanism of action is well The mechanism of action is well established, but established, but the evidence base from the evidence base from clinical clinical clinical trials in humans is trials in humans is still insufficient. With still insufficient. With that in mind, in my that in mind, in my opinion, BPC-157 is best opinion, BPC-157 is best suited for suited for treating treating treating tendon and ligament injuries, tendon and ligament injuries, muscle strains, and muscle strains, and repairing the repairing the intestinal lining.

intestinal lining. So, how about So, how about an analogy? Imagine a an analogy? Imagine a construction construction construction site where site where workers have arrived, workers have arrived, but there is no truck but there is no truck with materials.

with materials. So, BPC-157 doesn't just So, BPC-157 doesn't just send more send more workers. He workers.

Thymosin Beta-4 and TB-500 for Broad Tissue Damage

He actually builds actually builds roads to get roads to get more labor more labor to the site. Next is thymosin beta-4, and we'll thymosin beta-4, and we'll also touch a little on also touch a little on TB-500. So, TB-500. So, thymosin beta-4 is a thymosin beta-4 is a natural peptide of 43 natural peptide of 43 amino acids that is amino acids that is produced in produced in our thymus. This is the our thymus. This is the main molecule in main molecule in our cells that our cells that binds actin. And TB-500 is a synthetic is a synthetic fragment of seven fragment of seven amino acids. We do not amino acids. We do not manufacture the TB-500 manufacture the TB-500 ourselves. It is a ourselves. It is a fragment of thymosin fragment of thymosin beta-4, but both beta-4, but both have the same have the same healing mechanism. It is the actin-binding action that stimulates actin-binding action that stimulates cell migration.

cell migration. That is, repair That is, repair cells cells cells are directed to are directed to damaged tissue damaged tissue over a large area, over a large area, not just in one not just in one place. TB4 also promotes place. TB4 also promotes angiogenesis— angiogenesis— the formation of new the formation of new blood vessels.

blood vessels. Studies Studies Studies show that it has show that it has anti-inflammatory effects in anti-inflammatory effects in skin wound models. skin wound models.

Furthermore, TB4 Furthermore, TB4 exhibits exhibits exhibits cell survival signaling and cell survival signaling and cardioprotective cardioprotective cardioprotective effects under effects under oxidative oxidative oxidative stress, keeping stress, keeping more cells alive more cells alive during recovery.

during recovery. Therefore, TB4 is best Therefore, TB4 is best suited for large-area soft tissue injuries, large-area soft tissue injuries, such as such as muscle tears covering a muscle tears covering a significant area.

Animal studies suggest that Animal studies suggest that it may be it may be beneficial for beneficial for the repair of heart the repair of heart and nerve tissue.

and nerve tissue. You will often see You will often see TB4 used TB4 used in conjunction with BPC-157. One in conjunction with BPC-157. One recruits repair recruits repair cells on a large cells on a large scale, the other scale, the other creates local creates local blood supply and blood supply and structural structural structural signaling. Imagine a signaling. Imagine a natural disaster that natural disaster that affected an entire neighborhood, affected an entire neighborhood, not just one not just one house. BPC-157 is a house. BPC-157 is a road crew road crew repairing one street, repairing one street, and TB4 is the central and TB4 is the central dispatcher. He dispatcher. He sends repair sends repair crews to each crews to each damaged facility damaged facility simultaneously. He does not simultaneously. He does not specialize specialize specialize in just one type of in just one type of building renovation. It building renovation. It forces the forces to move forces the forces to move toward whatever is toward whatever is damaged, wherever it may damaged, wherever it may be.

GHK Copper for Collagen and Connective Tissue

Next up is the copper peptide GHK. This is a copper peptide GHK. This is a natural tripeptide natural tripeptide that binds copper and that binds copper and circulates in our circulates in our body, but its body, but its levels drop by almost levels drop by almost 60% from 20 to 60 years of age. So 60% from 20 to 60 years of age. So why does GHK-Cu, a peptide why does GHK-Cu, a peptide known for its known for its benefits for hair, benefits for hair, skin, and nails, have anything to do skin, and nails, have anything to do with with with pain relief and healing?

pain relief and healing? Because GHK-Cu Because GHK-Cu directly directly directly activates genes activates genes responsible for responsible for collagen and collagen and elastin synthesis in elastin synthesis in dermal dermal dermal fibroblasts. It fibroblasts. It also modulates a also modulates a wide range of genes wide range of genes associated with associated with tissue remodeling, wound healing, tissue remodeling, wound healing, and antioxidant and antioxidant defense. But when it comes defense. But when it comes to to to pain relief and pain relief and healing, it healing, it suppresses inflammatory suppresses inflammatory signals, particularly signals, particularly NF-kappaB activity. This NF-kappaB activity. This partly explains partly explains why it appears in why it appears in protocols for both protocols for both skin healing and connective tissue repair. And connective tissue repair. And new new new gene expression data gene expression data also point to an also point to an analgesic effect. Currently, this. Currently, this pain-relieving pain-relieving pain-relieving aspect is aspect is in its early stages and in its early stages and is based on is based on gene expression; it has gene expression; it has not yet been confirmed by not yet been confirmed by specific specific specific clinical clinical clinical trials in trials in humans. I want humans. I want to emphasize this to emphasize this very clearly. So, when very clearly. So, when should we should we use use use GHK copper peptide?

GHK copper peptide? Possibly for Possibly for treating skin wounds, treating skin wounds, healing after healing after surgeries or scars, surgeries or scars, and for general and for general connective connective connective tissue support. I have personally tissue support. I have personally used used used copper GHK in copper GHK in treatment protocols for treatment protocols for microfractures and microfractures and bone injuries. So, imagine bone injuries. So, imagine your skin and your skin and connective tissue as a connective tissue as a building with an building with an original original original blueprint. Over time, blueprint. Over time, this copy fades. And this copy fades. And when repairs are needed, when repairs are needed, the result begins the result begins to deviate from the to deviate from the original design.

original design. So a copper GHK is like So a copper GHK is like handing over the handing over the original original original blueprint to a construction crew. He doesn't blueprint to a construction crew. He doesn't just fix what's just fix what's broken. It broken. It tells the cells what tells the cells what the structure should the structure should actually look like actually look like so that the restored so that the restored area matches area matches the original, rather than being a the original, rather than being a rough copy. I rough copy. I understand. Choosing understand. Choosing supplements can be supplements can be exhausting. There are exhausting. There are hundreds of brands, hundreds of brands, conflicting conflicting conflicting claims, and claims, and it's impossible to understand it's impossible to understand what's actually good quality and what's actually good quality and what will truly make a difference in what will truly make a difference in your health. That's why I created the. That's why I created the Dr.

Supplement Store. Joe.

Dr. Supplement Store. Joe. Every product in the Every product in the store for energy, store for energy, gut health, gut health, sleep, sleep, sleep, hormone optimization, hormone optimization, recovery, and more is recovery, and more is personally reviewed, tested, and, tested, and recommended. These are the recommended. These are the formulas I formulas I use and use and recommend to my recommend to my patients, friends, and patients, friends, and family. So go family. So go to drjonesupplements.com, to drjonesupplements.com, sign up for our sign up for our newsletter, and you newsletter, and you will receive a 10% discount on your will receive a 10% discount on your first order. You will first order. You will also receive also receive exclusive exclusive exclusive protocols and insights protocols and insights that I share only that I share only with my community.

with my community. So let's cut through the So let's cut through the noise and choose noise and choose what really works.

Growth Hormone Peptides for Systemic Recovery

what really works. Next are growth hormone-releasing peptides. These growth hormone-releasing peptides. These peptides do not act peptides do not act directly on the directly on the site of injury. They site of injury. They increase levels of increase levels of growth hormone and IGF-1, growth hormone and IGF-1, and this is the anabolic and this is the anabolic signal that signal that enables enables enables tissue repair in the first place.

tissue repair in the first place. So, what is the difference So, what is the difference between the three of them? between the three of them? Let's Let's Let's dive deeper into dive deeper into the mechanisms of their action the mechanisms of their action for healing. First of for healing. First of all, what are they all, what are they? CJC-1295 is? CJC-1295 is a copy of our a copy of our own GHRH, or growth hormone-releasing hormone, which growth hormone-releasing hormone, which is produced by the is produced by the is produced by the hypothalamus, hypothalamus, hypothalamus, travels to the travels to the pituitary gland, and signals pituitary gland, and signals the body to release the body to release growth hormone. So, growth hormone. So, essentially, we give ourselves a essentially, we give ourselves a copy of it. More specifically, copy of it. More specifically, growth hormone growth hormone is released from is released from the pituitary gland, travels the pituitary gland, travels to the liver, to the liver, binds to binds to receptors on it, and receptors on it, and the liver releases IGF-1. IGF-1 is the anabolic " workhorse" of this workhorse" of this peptide, actually peptide, actually all three of these all three of these peptides. IGF-1 is an peptides. IGF-1 is an anabolic, it anabolic, it builds muscle and builds muscle and repairs tissue.

repairs tissue. So, tesamorelin is So, tesamorelin is also a GHRH peptide, which also a GHRH peptide, which means that it means that it will also bind to will also bind to GHRH receptors on the GHRH receptors on the pituitary gland to pituitary gland to release release release growth hormone. But growth hormone. But the peculiarity is the peculiarity is that tesamorelin that tesamorelin causes a stronger causes a stronger release of IGF-1 than CJC-1295.

release of IGF-1 than CJC-1295. Tesamorelin Tesamorelin Tesamorelin has also been approved by the FDA to has also been approved by the FDA to reduce reduce reduce visceral fat visceral fat in HIV lipodystrophy—a condition in which the medication the medication causes an causes an causes an increase in increase in increase in visceral fat.

visceral fat. So for me, So for me, the biggest the biggest the biggest difference difference difference with tesamorelin is with tesamorelin is this this this increase in IGF-1 levels, which increase in IGF-1 levels, which means that for means that for many many many recovery protocols, I recovery protocols, I lean towards lean towards it. This doesn't mean it. This doesn't mean you can't you can't use other. And the last one is ipamorel.

ipamorel. ipamorel. Ipamorelin is also a growth hormone-releasing peptide, but it works growth hormone-releasing peptide, but it works on a completely different on a completely different receptor.

receptor. receptor. Ipamorelin Ipamorelin Ipamorelin binds to the binds to the ghrelin ghrelin ghrelin receptor to receptor to trigger the release of trigger the release of growth hormone. As I growth hormone. As I said in the said

in the previous video: previous video: think of tesamorelin and think of tesamorelin and CJC-1295 as inflating a CJC-1295 as inflating a balloon.

balloon. balloon. The ball will The ball will release air, release air, which is your which is your growth hormone. And growth hormone. And Ipamorelin is like Ipamorelin is like squeezing a ball, which squeezing a ball, which causes causes causes more growth hormone to be released.

more growth hormone to be released. Synergistically, you will often, or Synergistically, you will often, or rather almost always, rather almost always, see CJC-1295 see CJC-1295 combined with combined with Ipamorelin to Ipamorelin to get a greater get a greater increase in increase in growth hormone and subsequently IGF-1.

growth hormone and subsequently IGF-1. So often people So often people think of these think of these peptides when it comes peptides when it comes to body composition and to body composition and deep sleep. But deep sleep. But when it comes to when it comes to healing, these peptides are healing, these peptides are best suited for best suited for people whose ability people whose ability to repair to repair has slowed due to has slowed due to aging. Because as we aging. Because as we age, age, age, our growth hormone release our growth hormone release decreases. And why is decreases. And why is this important? Because this important? Because growth hormone, through the growth hormone, through the release of IGF-1, release of IGF-1, helps the body helps the body repair and heal. So BPC-157 and thymosin. So BPC-157 and thymosin beta-4 are the construction beta-4 are the construction crew on site, and crew on site, and these peptides are the utility company utility company that makes sure the entire that makes sure the entire neighborhood has electricity.

neighborhood has electricity. This is necessary, but it is This is necessary, but it is not the same as swinging a not the same as swinging a hammer, clearing hammer, clearing debris, or debris, or directly directly directly carrying out repairs. This carrying out repairs.

KPV for Inflammation-Driven Pain

This causes an increase in causes an increase in IGF-1 levels, which IGF-1 levels, which does all the work. does all the work. Next on my Next on my list is KPV. KPV is a list is KPV. KPV is a fragment of three fragment of three amino acids: lysine, amino acids: lysine, proline, and valine.

proline, and valine. It is cut off from the It is cut off from the tail part of tail part of alpha- alpha- melanocyte-stimulating melanocyte-stimulating melanocyte-stimulating hormone. This is our body's own hormone. This is our body's own anti-inflammatory anti-inflammatory anti-inflammatory hormone hormone hormone. And this one. And this one works differently. It works differently. It directly directly directly inhibits NF-kappa-B, which is a inhibits NF-kappa-B, which is a master switch for master switch for inflammation. This is the inflammation. This is the same master same master switch that turns on the switch that turns on the expression of expression of inflammatory genes. KPV has been shown to inflammatory genes. KPV has been shown to significantly reduce significantly reduce inflammation and inflammation and accelerate recovery accelerate recovery in two different animal models of colitis. So, how does it animal models of colitis. So, how does it work? It enters work? It enters cells through the cells through the PepT1 transporter, and at PepT1 transporter, and at this point of entry, it this point of entry, it inhibits inflammatory inhibits inflammatory NF-kappa-B and MAPK signaling.

NF-kappa-B and MAPK signaling. It does not regenerate It does not regenerate tissue. It reduces the " noise" of inflammation. This is noise" of inflammation. This is often the real often the real source of pain.

source of pain. What is it best What is it best suited for? KPV is suited for? KPV is best suited best suited for pain and for pain and tissue irritation tissue irritation where chronic inflammation is the driving force where chronic inflammation is the driving force.

.. This may apply to This may apply to gut health, gut health, inflammatory inflammatory inflammatory skin conditions, and skin conditions, and joint pain with a joint pain with a pronounced inflammatory pronounced inflammatory component. I should component. I should note that note that human clinical trial data is human clinical trial data is still limited. At still limited. At this stage, this is this stage, this is mostly evidence mostly evidence from

from from animal models. Here's another animal models. Here's another analogy. Imagine a analogy. Imagine a fire alarm that continues to sound that continues to sound long after the long after the fire has been put out.

fire has been put out. This is chronic This is chronic inflammation. Most of inflammation. Most of our therapeutic our therapeutic peptides respond peptides respond by sending more by sending more firefighters or firefighters or more building more building materials. KPV materials. KPV does not do this. He goes does not do this. He goes straight to the panel and straight to the panel and turns off the alarm. No repair. No repair crews, no crews, no materials, just a materials, just a quieter building.

quieter building.

Matching the Mechanism to Your Condition

Let's summarize. Let's summarize. Let's quickly go through Let's quickly go through the categories and the categories and mechanisms. We won't mechanisms. We won't explain explain explain everything again. First, everything again. First, for structural for structural healing and healing and repair of tendons repair of tendons and ligaments, I lean and ligaments, I lean towards BPC-157. For a wider towards BPC-157. For a wider area or more severe area or more severe inflammation, I look for inflammation, I look for ways to ways to mobilize cells more.

mobilize cells more. This is where This is where thymosin thymosin thymosin beta-4 or TB-500 comes into play. When it beta-4 or TB-500 comes into play. When it comes to comes to restoring collagen, skin, bones, etc., I, skin, bones, etc., I lean towards lean towards GHK copper complex. For GHK copper complex. For more systemic more systemic recovery, recovery, recovery, especially in my especially in my older patients, I older patients, I prefer prefer growth hormone-releasing peptides such as CJC-1295, growth hormone-releasing peptides such as CJC-1295, ipamorelin, and ipamorelin, and tesamorelin. And tesamorelin. And finally, if it's pain finally, if it's pain caused by caused by caused by inflammation, inflammation, inflammation, KPV might be my choice. The KPV might be my choice. The real real real skill is not skill is not choosing the best choosing the best peptide, but combining peptide, but combining the mechanisms of action with what the mechanisms of action with what actually actually actually happens in the happens in the body. This should be body. This should be done with the done with the involvement of a involvement of a involvement of a qualified qualified qualified physician who will assess physician who will assess the condition or injury and the condition or injury and help determine help determine which peptide is which peptide is best for you.

best for you. So, if you're So, if you're struggling with an injury struggling with an injury that won't fully heal that won't fully heal, or pain that, or pain that keeps keeps keeps coming back no matter what you coming back no matter what you try, and you're try, and you're told to just told to just rest or rest or take another take another anti-inflammatory anti-inflammatory, the right peptide, the right peptide for your for your specific type of specific type of pain may be a pain may be a key piece of the key piece of the puzzle worth puzzle worth exploring. So, if exploring. So, if this analysis was this analysis was useful for you, give it useful for you, give it a like, a like, subscribe to the subscribe to the channel for channel for more science- more science- based based based information about information about hormones, peptides, and hormones, peptides, and longevity medicine, longevity medicine, and don't forget and don't forget to share this video to share this video with someone in your with someone in your circle who circle who might need it.

might need it. Thank you for watching. Thank you for watching. Dr. Greg Jones was with you Dr. Greg Jones was with you, see you in the, see you in the