



HGH AND PEPTIDE THERAPY

The Complete Guide



LIMITLESS MALE
Medical Clinic



**“If you’re a man over 30,
you need to read this book!”**

— Josh Simms, Physician Assistant & Peptide Certified Specialist

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As you’ve gotten older, you may have noticed that you’ve put on a few pounds. Your joints are probably a little achier than they used to be, and your sexual desire might be virtually non-existent.

While these may be something you simply attribute to aging, it can be more than that. The peptides that were once responsible for signaling the secretion of crucial hormones likely have decreased over the years.

For instance, as you age, your human growth hormone (HGH) levels begin to decline. HGH is partially responsible for destroying fat cells, increasing lean muscle mass, and reducing swelling and inflammation. But with Peptide Therapy, you can safely restore these levels to help your body function at an optimal level.

What Are Peptides?

Peptides are short-chain amino acids found naturally in the body. Amino acids are the building blocks of protein and these particular amino acids are designed to augment specific functions within the human body.

Peptide Therapy uses sequences already present to regulate and rejuvenate functions. They are a signaling agent. They bind to and tell other cells what to do, replacing or mimicking the functions of naturally occurring peptides. Peptides can rewrite body chemistry relationships to promote restoration, anabolism, and homeostasis.

There are over 7,000 different types of peptides. Peptides have dozens of uses but the most common uses are helping to help with sleep, build muscle and reduce fat, improve energy, improve sexual function, and reduce GI and musculoskeletal inflammation.

Some of the commonly prescribed peptide combinations function to naturally boost growth hormone for better recovery.

Some of the many benefits of different peptides include:

- Increased development of lean muscle growth
- Faster recovery time from workouts
- Reduced body fat
- Increased energy and stamina
- Increased muscle mass and endurance
- Accelerated healing from wounds or surgery
- Stronger immune system
- Improved regulation of other hormones
- Increased natural HGH production
- Stronger libido

Why is HGH Production Important?

What's the deal with HGH? Why is it important and why should I care about it? Great questions.

Human Growth Hormone (HGH or GH for short) plays several important roles including the maintenance of lean body mass, promoting fat-burning, improving the cardiovascular system, as well as cognitive benefits.

From aerobic endurance to building lean muscle, GH is involved in quite a bit. And while Growth Hormone gets its name from its important role in childhood development, its purpose extends far into adulthood. Even throughout adult life, it remains one of the most abundant hormones in the pituitary gland.

But as we continue to age, GH production declines, which starts to produce unwelcome side effects. Low levels of GH have been associated with reductions in muscle mass and strength as well as an increase in body fat, especially belly fat.

Additionally, there have been side effects of aging that have also been associated with a decrease in nighttime growth hormone secretion. These include a decrease in memory and cognitive function and sleep disorders. GH hormone pulse peaks/is at its highest during sleep. Not getting good sleep also affects production.

And while these declines only show an association between aging and low GH levels, it led to the assumed conclusion that replacing or stimulating GH could reverse some of the aging-related symptoms.

What is HGH?

HGH is important throughout life. But what exactly is it? Human growth hormone is a peptide secreted by the pituitary gland. It acts through binding to the HGH receptor, inducing either direct effects or initiating the production of insulin-like growth factor I (IGF-I), the most important mediator of HGH effects.

But GH is more than just an "anti-aging" formula. Several dangers are associated with GH deficiencies. Body composition is often significantly different marked by an increase in fat, predominantly in the stomach, and a decrease in muscle mass, which leads to reduced muscle strength and exercise capacity.

Weight is harder to control, and the general well-being of GH deficient adults may be affected, leading to reduced vitality and energy.

What Causes HGH Deficiency?

While aging is the primary cause, a variety of other factors can cause a decline including poor/lack of sleep, obesity, exercise, stress, and body composition. Furthermore, Adult growth hormone deficiency (AGHD) is becoming more common and has been thought to be associated with premature mortality.

Starting in your 30s, there is a slow decline of GH secretion. You lose about 15% every decade. GH secretion typically peaks in puberty at about 150 µg/kg day, then decreases to approximately 25 µg/kg/day by age 55.

Additionally, damage to the pituitary gland, whether as an adult or child, can further decrease GH secretions. As GH secretions continue to drop, the psychological well-being may also be impaired, and this comes in the form of depressed moods and increased anxiety levels.

Bone mass is reduced and combined with an increase in body fat, can lead to sarcopenic obesity and frailty. The decline in GH may also play a role in cognitive changes observed with aging. One of the many systems for classifying different cognitive domains is grouping them as either "crystallized" or "fluid" intelligence.

Crystallized intelligence generally refers to vocabulary and long-term memory; whereas fluid intelligence includes short term memory and active problem-solving and demonstrates a more marked age-related decline. Several studies have shown a correlation between plasma IGF-I concentrations and performance on tests of fluid intelligence, suggesting that GH may play a role in the maintenance of fluid intelligence.



What to Look For

Symptoms can come in a variety of forms including cognitive, cardiac, muscular, metabolic, and bone symptoms. The most frequently seen symptoms affect mental health, weight management and muscle loss, energy and sleep, sex drive/libido, and much more.

Changes in memory, processing speed, and attention are greatly reduced. Psychological effects such as social isolation, low self-esteem, poor self-control, and poor marital and socio-economic performance are also possible.

If you're experiencing any of these symptoms, a simple blood test and consultation with a trained provider can help determine if you're suffering from an HGH deficiency.

SYMPTOMS OF HGH DEFICIENCY

- Anxiety and depression
- Decrease in muscle mass and strength
- Decrease in sexual function/interest
- Fatigue/low energy
- Elevated triglyceride levels
- Difficulty concentrating or lack of memory
- Increased abdominal fat
- Reduced vitality and energy

Would Peptide Therapy Benefit Me?

In short, most would benefit from peptide therapy. Our day-to-day lives can cause a lot of pain. Peptides can improve our lifestyles to help remove knee pain, back pain, shoulder pain, and more. Peptides are a very safe option and we've had no reported adverse side effects with any of the peptides that we have used with our patients.

Peptide therapy is no miracle solution to your aches and pains, but it does help significantly with quite a few of them. It can also be used in combination with other treatments such as Testosterone Replacement Therapy to enhance and increase your results. It's a great way to improve your health without resorting to multiple treatment options or enduring expensive procedures.

Peptides can treat very specific conditions in the body, leading to a wide range of benefits. They can be used to improve your overall health and wellness as well as provide anti-aging benefits. Some of the conditions it can improve are inflammation, weight management, low libido, growth hormone deficiency, anxiety and depression, joint pain, lack of mental clarity and focus, insomnia, and more.

Some of the most commonly used peptides include Ipamorelin, Sermorelin, CJC-1295, PT-141, BPC-157, AOD 9604, Thymosin Alpha-1, and Thymosin Beta-4.

Ipamorelin

Ipamorelin is used to help augment growth hormone production. It's not a synthetic growth hormone, rather a medication that's designed after the hormone that exists in our body to help the pituitary gland produce more growth hormone naturally.

Composed of 5 amino acids, Ipamorelin is a growth hormone secretagogue that stimulates the pituitary gland to release more growth hormone. Ipamorelin helps your body burn fat and recover from workouts sooner. And if you add exercise to your routine, you'll lose weight at a faster rate. Ipamorelin also includes anti-aging properties, helps improve your sleep cycle, and can enhance your immune system.

Ipamorelin is one of the latest and greatest peptides in the growth factor family. Deemed one of the safest GHRP's, Ipamorelin is a selective growth hormone (GH) Secretagogue and Ghrelin receptor agonist. This peptide generates similar increases in growth hormone secretion, but without the appetite stimulation and increase in cortisol, acetylcholine, prolactin, and aldosterone seen with other peptides in its class.

Human Growth Hormone (HGH) peaks at about age 20 and steadily declines as we age. When used alone or in conjunction with other peptides, Ipamorelin can boost your HGH levels helping to slow the process of aging so that you can live your best life.

Ipamorelin is not only much less expensive than synthetic HGH but much safer as well. Ipamorelin and similar peptides stimulate the production and release of HGH from your pituitary gland instead of directly injecting your body with HGH. It also acts differently than other HGH peptides, Ipamorelin mimics ghrelin (in the same way that Sermorelin mimics GHRH, more on Sermorelin next). Ghrelin plays a huge role in metabolism by increasing or decreasing hunger, initiating stored fat breakdown for the body to use as energy, and prevents the breakdown of muscles.

While Ipamorelin and synthetic HGH have similar benefits, only synthetic HGH carries potentially dangerous side effects such as the shutdown of natural HGH production, risk of excessive dosage, carpal tunnel syndrome, abnormal bone and tissue growth, and an enlarged heart.

Benefits of Ipamorelin include:

- Decreased body fat
- Increased collagen production
- Increased lean muscle mass
- Improved sleep
- Increased cellular repair and Regeneration
- Increased IGF-1
- Increases bone mineral content
- Counteracts glucocorticoid catabolic effects
- Less appetite stimulation than GHRP-6
- Less release of cortisol, prolactin, and aldosterone

Sermorelin

Another powerful growth hormone-releasing peptide is Sermorelin.

Just like Ipamorelin, Sermorelin is a growth hormone peptide, but it works differently in the body (stimulates GHRH instead of ghrelin) to accomplish the same thing – stimulating growth hormone release from the pituitary gland.

Overall, both Ipamorelin and Sermorelin support natural HGH production which is essential for overall cell regeneration and cell reproduction, leading to improved vitality, cognitive function, and overall anti-aging benefits.

CJC 1295

Often combined with Ipamorelin, Sermorelin, and other HGH peptides, CJC 1295 is a GHRH (growth hormone-releasing hormone) analogue that is very effective at increasing growth hormone secretion and IGF-1. CJC 1295 allows the anterior pituitary to follow the natural, pulsatile release of growth hormone without an increase in appetite stimulation, cortisol, acetylcholine, prolactin, and aldosterone. Typically, you will see CJC compounded with Ipamorelin due to its ability to stimulate GHRH for enhanced results.

Cycling-Off/Taking a Break

It is important to take breaks from regular use of GH releasing peptides to minimize the risk of developing a resistance to GH.

All GH releasing peptides are administered by subcutaneous injection five days on two days off each week. Cycling off the peptide for one month is required after six months of continuous use.

Combination Therapy

HGH Peptide Therapy can be used in conjunction with other peptides as well as other therapies such as Testosterone Replacement Therapy or erectile dysfunction treatments to enhance and increase your results.

BENEFITS OF SERMORELIN

- Body fat reduction
- Increased lean body mass
- Improved energy and vitality
- Increased endurance and strength
- Accelerated wound healing
- Improved immune function
- Improved cardiovascular function
- Improved sexual performance and libido
- Improved sleep

BENEFITS OF CJC 1295

- Increased GH secretion and IGF-1 levels
- Improved cognitive function and memory
- Increased cellular repair and regeneration
- Increased muscle growth
- Increased bone density
- Increased fat loss

When Can I Expect to See Results?

While patients will notice some significant changes in the body after the first month, the full benefits are usually fully noticed after four to six months of therapy.



BPC-157

BPC-157 is a molecule that is isolated in the gastric juice to help with gut health. It increases vascular flow to the tendons and ligaments to increase healing. Those who suffer from discomfort due to muscle sprains, tears and damage may benefit from treatment with this peptide. It can also help aid skin burns to heal at a faster rate and increase blood flow to damaged tissues.

Overall, BPC-157 is a great option to help alleviate joint pain, old injuries, and those looking to improve joint mobility.

BENEFITS OF BPC-157

- Improves digestive function
- Accelerated wound healing (muscle, ligament, tendon, nerve)
- Shown to decrease pain in damaged areas
- Increases growth hormone receptors
- Promotes the outgrowth of tendon fibroblasts, cell survival under stress, and the migration of tendon fibroblasts
- Protects and heals inflamed intestinal epithelium (leaky gut)
- Shown to help with IBS (*Inflammatory Bowel Syndrome*)
- Protects the liver from toxic insults (alcohol, antibiotics, etc.) & promotes healing
- May improve NO production
- Anti-inflammatory

AOD-9604

AOD is a synthetic analog of the human growth hormone developed to combat obesity and help people trying to lose weight. AOD can stimulate the pituitary gland, similar to HGH and other growth hormones, which can speed up metabolism and burn body fat. Users may start to notice results in as early as two months. Overall, the results will be contingent upon factors such as working out regularly and following a dietary plan.

BENEFITS OF AOD 9604

- Body fat reduction
- Reduces abdominal fat
- Imitates the way natural growth hormone regulates fat metabolism
- Prohibits the transformation of non-fatty foods into body fat
- Possesses regenerative properties associated with growth hormone
- Mobilizes stored energy during fasting or exercise
- Does not affect blood sugar

Thymosin Beta-4 (TB4)

Thymosin Beta-4’s primary function is to promote healing in tendons, ligaments, muscle, skin, heart, and eyes. This peptide is naturally produced in larger concentration where tissue has been damaged.

BENEFITS OF TB4

- Boosts your immune system
- Decreases scar tissue formation
- Increases collagen formation
- Beneficial in non-alcoholic fatty liver disease
- Used for hair restoration

Thymosin Alpha-1 (TA1)

Thymosin Alpha 1 is responsible for restoring immune function and helps regulate the immune response. This peptide is responsible for stimulating the immune system to seek out and destroying bacterial, fungal, and viral infections.

BENEFITS OF TA1

- Immune enhancing peptide
- Helps prevent infections such as the common cold or the flu and diseases
- Supports the eradication of unhealthy cells
- Aids in the removal of acute or chronic infections
- Has antibacterial, antiviral, and antifungal properties
- Protects your cells against oxidative stress & damage
- Improve symptoms associated with chronic fatigue
- Reduces inflammation in the body
- Inhibits viral replication

Semaglutide

Semaglutide is an FDA-approved prescription peptide for weight management. It is a weekly injectable that can be done from home that helps regulate blood sugar levels, regulate appetite, slows down the emptying of the stomach, and controls your body’s glucose production. This allows Semaglutide to help you safely lose weight and keep it off.

If you are struggling with being overweight or have weight-related medical conditions such as type 2 diabetes, high blood pressure, or high cholesterol, Semaglutide may help you.

BENEFITS OF SEMAGLUTIDE

- Healthy weight loss
- Appetite control
- Balanced glucose levels
- Meal portion control
- Reduced food cravings

**Increased benefits when combined with a regular exercise program and reasonable dietary changes.*

PT-141

PT-141 is a new innovative peptide hormone treatment that works for both men and women to improve sexual function. PT-141 is an effective and efficient treatment for both erectile dysfunction and increased libido in men and improves female sexual arousal disorder in women.

PT-141 works directly through the nervous system to increase arousal, desire, and satisfaction with sex. Treatments like Viagra and Cialis work through the vascular system and only give you the ability to achieve an erection. However, PT-141 peptide gives you the desire and motivation along with the ability to achieve an erection, returning the intimacy and passion to your relationship. And because PT-141 works through the nervous system and not the cardiovascular system, it can be a safer option for a wider variety of people, including those suffering from heart conditions, but still wish to maintain a healthy sex life.

BENEFITS OF PT-141

- Improved sexual desire & performance
- Regained self-esteem & confidence
- Improved relationship with your partner
- Return to healthy sexual intercourse
- Better, healthier sex which enhances mood, reduces stress & lessens depression

**Increased benefits when combined with other sexual health treatments & hormone therapies.*

Conclusion

Peptides are specific to function intended, have a very high safety factor, and are well-tolerated by patients. Because of these properties, peptides are the future of regenerative medicine and are dramatically changing the lives of those seeking longevity and well-being. Peptides continue to grow in many treatment aspects including weight loss (muscle preservation), immune system issues, growth hormone, and overall skin care, anti-aging.

At Limitless Male, we have several peptides that we offer for our patients, and we often prescribe a combination of peptides for optimal results. The peptide therapy options can also be used in conjunction with other therapies such as Testosterone Replacement Therapy or erectile dysfunction treatments to enhance and increase results. Peptides are appropriate for men and women alike, no matter your age.

If peptide therapy is something, you’d like to learn more about, check out our peptide therapy options at LimitlessMale.com or talk to a provider



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