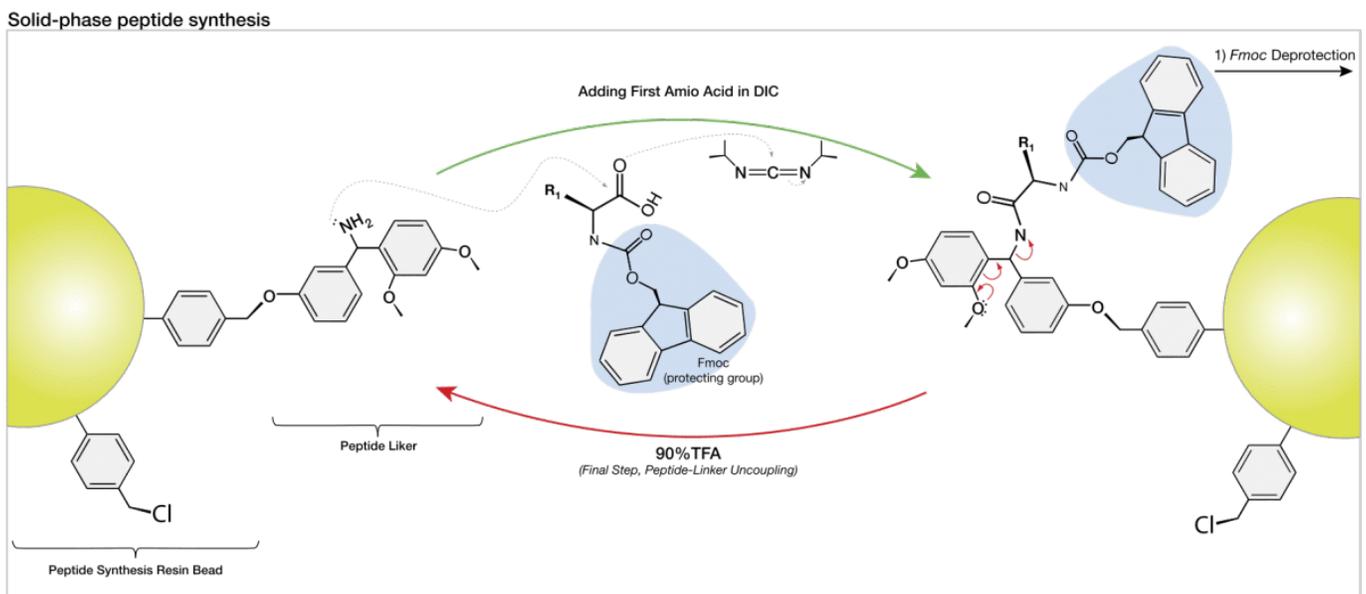


Restoring Health Through the Use of Therapeutic Peptides

For thousands of years, people have been searching for the mythical fountain of youth – a spring that purportedly adds years or even decades to the lives of anyone who drinks or bathes in its waters. Spanish conquistador Ponce de León has long been the poster child for allegedly stumbling across this mystical water feature in the 16th century. But even as early as the fourth century B.C., Alexander the Great is claimed to have found a healing “river of paradise.”

In many ways, we are still on a quest to discover the fountain of youth, though now the search has turned to science – medications, supplements, or therapies that hold some promise of turning back the hands of time and restoring our health and vigor. Today, more and more evidence points to *peptides* as the anti-aging solution we have long been seeking.



(Copyright: Dan Cojocari ✉ · 📄 · / CC BY-SA via <https://creativecommons.org/licenses/by-sa/3.0>)

Peptides are short chains of amino acids (between two and 50) that signal the release of other substances the body needs for healthy function. You may already know that amino acids are also the building blocks of proteins, but proteins contain far more amino acids and a more complex structure than peptides.

Your body contains a variety of peptides that work on different areas of the body, typically acting as highly specific messengers in many crucial functions, including the release of human growth hormone (HGH). By using different peptides, potentially we can restore healthy cell function and communication to treat a variety of illnesses and maybe even make you look and feel younger.

But restoring health is a more complicated process than simply supplementing with the right peptides in the right amounts. Here at BioDesign Wellness Center, a [Tampa functional medicine](#) practice, we follow a three-step approach tailored to each patient:

1. **Discover.** Identify and address the root causes of illness by performing a thorough physical examination, medical history, and targeted testing. Our objective in this step is to move from symptoms to underlying causes.
2. **Repair.** Detoxify the body, which usually involves eliminating the source of the toxins and then purging toxins from the body. Sources of toxins may be external (such as pesticides, fungicides, plastics, and mold inside a water-damaged building) or internal (such as a bacterial, viral, or fungal infection).
3. **Optimize.** After successfully addressing the causes of the illness or dysfunction, we work to restore optimal health and fitness through supplements that may include specific peptides. Peptides can take three to nine months for full benefit, and many patients note improvements rapidly

within the first month.

Conditions That Peptides May Help Treat

Peptides can be used to treat a wide range of illnesses and other conditions, along with enhancing energy, strength, memory, thinking, weight loss, and more. They may even make you look and feel younger and healthier. Here are a few illnesses that peptides are often used to treat:

- Arthritis
- Cancer
- Chronic metabolic issues, including obesity and inability to lose weight and muscle loss or inability to build muscle (which can be associated with low testosterone, diabetes, or hypothyroid)
- Chronic infections (Lyme disease, sinusitis, HBV, HCV, CMV, etc.)
- Colitis
- Dementia
- Erectile dysfunction
- Fatigue
- Fibromyalgia
- Gastrointestinal disorders
- Hashimoto's thyroiditis
- Inflammation
- Inflammatory bowel disease
- Insomnia
- Joint injury
- Low libido
- Mold illness or environmentally acquired illness (EAI)
- Neurodegenerative conditions (Parkinson's, multiple sclerosis, etc.)
- Non-alcoholic fatty liver disease (NAFLD)
- Traumatic brain injury (TBI)

- Ulcers

Benefits of Using Peptides

Peptides are an attractive treatment option for several reasons, including the following:

- **Safe:** Peptide supplements are unlikely to cause serious side effects because they're similar to peptides present in everyday foods, they don't build up in tissues, and they help the body self-regulate the amount of a substance (such as growth hormone) the body produces.
- **Effective:** Peptides have played an important role in conventional medical treatments since the 1920s with the advent of insulin therapy. More than 60 peptide medications have been approved for use in the United States and other major markets.
- **Broad applications:** Numerous peptides are available for treating a broad range of dysfunctions in the body.
- **Easy to use:** Most peptides are injected subcutaneously (under the skin, with a small needle, like taking insulin). Thymosin can be taken subcutaneously or in the form of a nasal spray. *Body Protective Compound (BPC) 157* – which we'll cover in more depth below – can be administered orally.
- **No withdrawal symptoms:** You can stop and start treatment without experiencing withdrawal symptoms.

Here at BioDesign Wellness Center, most of our patients report improved memory and clearer thinking, better physical performance, improved body composition, less muscle and joint pain, and improved sleep when taking peptides. In addition, peptides are well tolerated by patients, and the side-effect profiles are minimal.

Type of Peptides

We prescribe peptides for each patient individually based on their health history, test results, and current concerns. The following describe the peptides we most commonly prescribe for our patients.

Thymosins

Thymosin is a hormone produced by the thymus gland, which is located behind your breastbone and between your lungs. During puberty, the thymus releases a hormone called thymosin, which stimulates the conversion of white blood cells called lymphocytes into T cells – a specific type of white blood cell that protects the body against bacterial and viral infections. After T cells have matured in the thymus, they migrate to the lymph nodes (small immune-system glands located throughout the body). After puberty, the thymus gland becomes inactive and begins to shrink.

Thymosins (or thymic peptides) help to modulate immune function, accounting for their usefulness in treating chronic inflammation and autoimmune disorders.

Two thymosins are commonly used in peptide therapy: thymosin alpha 1 (*Ta1*) and thymosin beta 4 ($T\beta 4$), as described in the following sections.

Thymosin Alpha 1 (Ta1)

Thymosin alpha 1 (Ta1) protects the immune system and improves its ability to recognize and respond to *pathogens* (disease-causing viruses, bacteria, and other microorganisms). *Ta1* enhances immune system health and function in the following ways:

- Increases natural killer cell activity, thereby boosting immunity.

- Increases levels of cytotoxic T cells, which help destroy pathogens and sick cells.
- Reduces apoptosis of immune cells, thereby preventing the immune system from attacking itself.
- Balances the ratio of Th1 and Th2 cells (see below). Studies show *immunosenescence* (gradual deterioration of the immune system associated with age) and/or immune dysregulation may result in an imbalance of the immune system.

Th (T helper) cells respond to different pathogens. Th1 cells tend to generate responses against bacteria and viruses that invade cells, whereas Th2 cells produce immune responses to pathogens that cause infections outside cells, such as parasites. More importantly in respect to systemic inflammation, Th1 cells are pro-inflammatory, whereas Th2 cells are considered anti-inflammatory. Both cell types are necessary, but they need to be balanced. Infection, aging, stress, and toxins (including mold toxins), may all contribute to immune imbalances resulting in immune dysregulation that leads to several chronic illnesses. In particular, Th2 dominance is associated with the following conditions:

- Autoimmune diseases, such as celiac disease, Guillain-Barre syndrome, Hashimoto's thyroiditis, multiple sclerosis, rheumatoid arthritis, lupus, and type 1 diabetes
- Cancer
- Changes in sex hormone levels
- Chronic fatigue
- Chronic infections
- Depression
- Dysbiosis (an imbalance in gut microbes)
- Fibromyalgia
- Food allergies and sensitivities

- Insulin resistance, obesity, and diabetes
- Oxidative stress
- Zinc and other mineral deficiencies

One of the biggest benefits of Tα1 is that it restores the balance of Th1 and Th2, modulating the immune response. Several clinical studies show Tα1 helpful in treating a wide range of illnesses, including the following:

- Chronic obstructive pulmonary disease (COPD)
- Cystic fibrosis
- Fungal infections
- Hepatitis B
- HIV-1
- Influenza
- Lung cancer
- Melanoma
- Sepsis

Drugs containing Tα1 have been approved for clinical use in more than 35 countries (including the U.S.) with few reports of any adverse side effects.

Thymosin Beta 4 (Tβ4)

Thymosin beta 4 (Tβ4) is present in all human cells, but in higher concentrations in wound tissue and in blood cells that play a role in healing wounds. During the wound-healing process, Tβ4 is involved in a range of processes for regenerating tissue, including the following:

- Promotes formation of new blood vessels to the injured area to facilitate the transportation of healing substances
- Increases inflammation in and around the wound site to aid healing

- Increases the amount of cell-building proteins such as actin
- Restores tissue structure and metabolism
- Promotes hair growth
- Alleviates acute/chronic pain

T₄ has been helpful in treating stroke, spinal cord injury, traumatic brain injury, diabetes, cardiovascular damage resulting from reduced blood flow, and even multiple sclerosis.

BPC 157

Body Protective Compound (BPC) 157 is normally produced in sufficient quantities in the digestive system, which has a direct connection to brain health. We use BPC to support patients with digestive problems including esophagitis, gastroesophageal reflux disease (GERD), and ulcers. We also use it to support patients who have been exposed to mold and suffer from joint pain or memory loss.

However, BPC has far reaching effects in the body, which include the following:

- Reducing inflammatory mediators
- Building new blood vessels
- Regulating growth rate
- Improving digestive function
- Maintaining gut mucosa
- Protecting the liver from toxins
- Repairing tissue

BPC 157 can aid in the treatment of many chronic diseases, including autoimmune diseases, cardiovascular disease, and diabetes.

Ipamorelin and CJC 1295

Ipamorelin and *CJC 1295* are two different peptides we use in combination to stimulate the release of growth hormone (GH) by the pituitary gland. *Ipamorelin* is a growth hormone releasing peptide (GHRP), which *induces* the release of growth hormone, and *CJC-1295* is a growth hormone releasing hormone (GHRH), which *amplifies* the release of growth hormone.

Unlike other GHRPs, *Ipamorelin* does not affect the release of cortisol, acetylcholine, prolactin, or aldosterone, thus minimizing the adverse side effects of other growth hormone therapies, such as increased hunger. Likewise, *CJC-1295* amplifies the release of growth hormone with a minimal effect on cortisol and prolactin levels.

Increasing growth hormone triggers an increase in the production of Insulin-Like Growth Factor-1 (IGF-1) by the liver, thereby delivering the following health benefits:

- Decreased body fat
- Increased muscle mass
- Increased strength
- Increased energy
- Enhanced sleep
- Increased physical and mental performance
- Enhanced calcium retention
- Increased bone density
- Healthy immune function
- Enhanced fat burning
- Better skin elasticity
- Enhanced repair and recovery of connective tissue post injury

Using Peptides to Deliver Personalized Treatments

Peptides are also referred to as *secretagogues* (seh-kreet-ah-gahgs) – substances that promote the release of other

substances. Peptides communicate with various parts of the body to release substances that the body needs to function properly. They are powerful tools for developing and delivering personalized treatments, because they enable us to target specific dysfunctions in the body's systems, including the endocrine system, the gastrointestinal system, and the immune system.

However, peptides alone are insufficient in restoring health. Personalized treatment must include discovery (identifying and addressing underlying causes of illness), repair (detoxifying the body), and optimization (restoring healthy function). Here at BioDesign Wellness Center, we provide a personalized treatment plan that leads you through this three-step process to achieve optimal health and fitness.

If any of this is of interest to you – or if you're just curious to discover if a plan of care that includes the use of medically prescribed peptides may be right for you, please contact Lori, our customer experience manager, at (813) 445-7770.

Disclaimer: *The information in this blog post about peptides is provided for general informational purposes only and may not reflect current medical thinking or practices. No information contained in this post should be construed as medical advice from the medical staff at BioDesign Wellness Center, Inc., nor is this post intended to be a substitute for medical counsel on any subject matter. No reader of this post should act or refrain from acting on the basis of any information included in, or accessible through, this post without seeking the appropriate medical advice on the particular facts and circumstances at issue from a licensed medical professional in the recipient's state, country or other appropriate licensing jurisdiction.*