



Peptide Therapy

A Patient Education Guide from Encompass Care

Peptides are short chains of amino acids — the same building blocks that make up proteins — that act as precise signaling molecules throughout the body. Your body already produces thousands of peptides naturally; they regulate hormones, repair tissue, control inflammation, and coordinate cellular energy. Therapeutic peptides are synthetically produced versions of these naturally occurring compounds, designed to support or restore functions that may have declined due to aging, stress, illness, or other factors.

This guide covers the most clinically relevant peptides in integrative and functional medicine. For each one, you will find a plain-language explanation of **what it is, the science behind it, its FDA approval status**, and important **safety considerations** — so you can have an informed conversation with Natalie about whether any of these may be appropriate for your care plan.

- Status Guide**
- **FDA-APPROVED** Reviewed and approved by the U.S. Food and Drug Administration for specific uses.
 - **NOT FDA-APPROVED** Available through compounding pharmacies or as supplements. Used clinically but not FDA-cleared for specific conditions. This does not mean unsafe — many widely used treatments follow this path.

Peptide Reference Guide

Semaglutide (GLP-1 Receptor Agonist)

● **FDA-APPROVED**

Metabolic Health · Weight Management · Blood Sugar Regulation

Approval Status	Approved for Type 2 Diabetes (Ozempic®) and chronic weight management (Wegovy®)
What It Is	Semaglutide is a synthetic version of GLP-1 (glucagon-like peptide-1), a hormone your gut naturally releases after eating. It works by signaling the brain's appetite centers that you are full, slowing gastric emptying so food moves through the stomach more slowly, and improving how your pancreas responds to blood sugar.
The Science	Clinical trials (STEP program) demonstrated an average of 15–17% body weight reduction over 68 weeks at the 2.4 mg dose, alongside improvements in blood pressure, triglycerides, and fasting glucose. GLP-1 receptors are also found in the cardiovascular system, and data shows reduced risk of major cardiac events in high-risk patients.
Common Uses	Weight loss, Type 2 diabetes, PCOS-related insulin resistance, metabolic syndrome, cardiovascular risk reduction
How It's Given	Weekly subcutaneous injection
Considerations	<i>Not appropriate if personal/family history of medullary thyroid cancer or MEN2 syndrome. Requires gradual dose titration. May cause nausea, especially early in treatment.</i>



BPC-157 (Body Protection Compound-157)

● NOT FDA-APPROVED

Tissue Repair · Gut Health · Inflammation · Injury Recovery

Approval Status	Research compound; available via compounding pharmacies. Not approved for any specific indication.
What It Is	BPC-157 is a synthetic peptide derived from a protein naturally found in human gastric juice. It has been studied extensively in animal models for its regenerative properties across multiple tissues — gut lining, tendons, ligaments, muscle, and neurological tissue.
The Science	Research shows BPC-157 promotes angiogenesis (new blood vessel formation), upregulates growth hormone receptors in tendon fibroblasts, and modulates nitric oxide signaling to support tissue healing. Animal studies consistently show accelerated healing of GI ulcers, tendon/ligament tears, and muscle injuries. Human clinical trial data is limited but emerging.
Common Uses	Leaky gut / intestinal permeability, tendon and ligament repair, post-surgical recovery, inflammatory bowel conditions, chronic musculoskeletal injury
How It's Given	Oral capsules (gut-focused) or subcutaneous injection (systemic)
Considerations	<i>Limited long-term human safety data. Considered investigational. Should be sourced only from licensed compounding pharmacies.</i>

TB-500 / Thymosin Beta-4

● NOT FDA-APPROVED

Injury Recovery · Muscle Repair · Anti-Inflammatory

Approval Status	Research compound. Thymalfasin (a related peptide) is approved in some countries for hepatitis B treatment.
What It Is	Thymosin Beta-4 (TB-500 is its synthetic fragment) is a naturally occurring peptide found in virtually all human and animal tissues. It plays a central role in actin regulation — the protein responsible for cell shape, migration, and tissue repair. It is one of the most abundant peptides in the human body.
The Science	TB-500 promotes cell migration to sites of injury, reduces inflammation via downregulation of inflammatory cytokines, and accelerates collagen deposition. Studies show benefits in cardiac tissue repair, wound healing, and neuroprotection. Its systemic nature means it supports healing broadly rather than at one targeted site.
Common Uses	Muscle tears, tendon/ligament injuries, post-surgical recovery, cardiac tissue repair, chronic inflammation, wound healing
How It's Given	Subcutaneous or intramuscular injection
Considerations	<i>Limited human clinical trial data. Investigational use only. Not to be used in patients with active malignancy.</i>



CJC-1295 / Ipamorelin (GHRH + GHRP Stack)

● NOT FDA-APPROVED

Growth Hormone Optimization · Body Composition · Sleep · Recovery

Approval Status	Compounded research use. Sermorelin (a related GHRH analog) was previously FDA-approved.
What It Is	CJC-1295 is a growth hormone-releasing hormone (GHRH) analog that stimulates the pituitary gland to produce more growth hormone. Ipamorelin is a growth hormone-releasing peptide (GHRP) that works through a different receptor to enhance GH pulses. Used together, they create a synergistic, physiologic increase in growth hormone — mimicking the body's natural pattern rather than flooding the system.
The Science	CJC-1295 extends the half-life of GHRH signaling, while Ipamorelin selectively stimulates GH release without significantly raising cortisol or prolactin (a key advantage over older GH secretagogues). Studies show improvements in IGF-1 levels, lean muscle mass, fat metabolism, sleep quality, and tissue repair markers.
Common Uses	Age-related GH decline, body composition improvement, sleep quality, recovery acceleration, metabolic support, bone density
How It's Given	Subcutaneous injection, typically at bedtime (aligned with natural GH pulse)
Considerations	<i>Not appropriate in active cancer or malignancy history. Requires IGF-1 monitoring. Should not be used to replace clinically appropriate GH therapy.</i>

PT-141 (Bremelanotide)

● FDA-APPROVED

Sexual Health · Libido · Arousal

Approval Status	Approved as Vyleesi® for hypoactive sexual desire disorder (HSDD) in premenopausal women.
What It Is	PT-141 is a synthetic melanocortin peptide that acts on the central nervous system — specifically melanocortin receptors in the brain — to enhance sexual arousal and desire. Unlike medications that work on vascular flow (e.g., PDE5 inhibitors), PT-141 works directly on the neurological pathways that regulate libido.
The Science	Its mechanism through MC3R and MC4R receptors in the hypothalamus directly activates desire circuitry rather than peripheral blood flow. Clinical trials leading to FDA approval showed significant improvement in satisfying sexual events and reduced distress related to low desire. Benefits apply to both hormonal and psychological contributors to low libido.
Common Uses	Low libido in women (HSDD), sexual dysfunction related to hormonal changes, menopause-related sexual health, low desire in men (off-label)
How It's Given	Subcutaneous injection or intranasal
Considerations	<i>May cause transient nausea, flushing, or blood pressure changes. Should be used on an as-needed basis. Not recommended with cardiovascular disease without provider clearance.</i>



Kisspeptin-10

● NOT FDA-APPROVED

Hormonal Regulation · Reproductive Health · LH / FSH Support

Approval Status	Investigational compound in clinical research for reproductive endocrinology.
What It Is	Kisspeptin is a naturally produced neuropeptide that acts as a master regulator of the hypothalamic-pituitary-gonadal (HPG) axis — the hormonal cascade controlling LH, FSH, estrogen, and testosterone. Kisspeptin-10 is the bioactive fragment used in clinical and research settings.
The Science	Kisspeptin neurons in the hypothalamus serve as gatekeepers of GnRH (gonadotropin-releasing hormone) secretion. Research at institutions including Cambridge and the NIH has demonstrated that kisspeptin administration can restore pulsatile LH release in women with hypothalamic amenorrhea and support ovulatory function. It may also play a role in stress-related hormonal suppression and low testosterone in men.
Common Uses	Hypothalamic amenorrhea, fertility support, hormonal dysregulation, low testosterone with HPG-axis suppression
How It's Given	Subcutaneous injection (pulsatile dosing protocols)
Considerations	<i>Highly protocol-dependent. Currently investigational. Should only be considered under careful hormonal monitoring.</i>

⊕ **COMBINATION PROTOCOL — Used Together for Enhanced Effect**



The Wolverine Stack — BPC-157 + TB-500

⊕ COMBINATION PROTOCOL

COMBINATION PROTOCOL · Accelerated Repair · Injury Recovery · Inflammation · Gut & Tissue Healing

Approval Status	Both peptides are compounded research compounds. Used in combination for synergistic tissue repair. Neither is FDA-approved for any specific indication.
What It Is	The 'Wolverine Stack' combines BPC-157 and TB-500 — two of the most studied repair peptides — into a single protocol. BPC-157 targets localized healing: gut lining integrity, tendon attachment points, ligament repair, and nerve regeneration. TB-500 works systemically: it mobilizes stem cells, accelerates cell migration to injury sites, and broadly reduces inflammation. Together they address tissue repair from two complementary angles — local precision and systemic reach — which is why practitioners nicknamed the combination after Marvel's famously fast-healing mutant.
The Science	BPC-157 upregulates growth hormone receptors in tendon fibroblasts and promotes angiogenesis at injury sites via nitric oxide modulation. TB-500's active fragment (Ac-SDKP) downregulates pro-inflammatory cytokines and upregulates actin polymerization — the cellular scaffold for tissue rebuilding. Animal studies consistently show the combination produces faster and more complete recovery than either peptide alone, with additive effects observed across muscle tears, joint injuries, intestinal repair, and neurological tissue. The stack has gained significant traction in sports medicine and integrative practice given the complementary, non-redundant mechanisms of each peptide.
Common Uses	Acute and chronic musculoskeletal injuries, tendon and ligament tears, post-surgical recovery, leaky gut combined with systemic inflammation, autoimmune-related tissue damage, athletic recovery optimization
How It's Given	BPC-157: oral capsules (gut) or subcutaneous injection. TB-500: subcutaneous or intramuscular injection. Administered as separate injections on the same schedule.
Considerations	<i>Not for use with active malignancy — both peptides have pro-angiogenic properties. Limited long-term human safety data. Source only from PCAB-certified compounding pharmacies.</i>



NAD+ / NMN Precursors

● NOT FDA-APPROVED (as drugs)

Cellular Energy · Aging · Mitochondrial Function · DNA Repair

Approval Status	NAD+ precursors (NMN, NR) are available as supplements. IV NAD+ is offered by many clinics. Not FDA-approved for specific indications.
What It Is	NAD+ (nicotinamide adenine dinucleotide) is a coenzyme found in every cell in the body, essential for energy production, DNA repair, and cellular signaling. NAD+ levels naturally decline with age — by up to 50% by midlife. Precursors like NMN (nicotinamide mononucleotide) and NR (nicotinamide riboside) are converted into NAD+ inside cells.
The Science	Research led by scientists including Dr. David Sinclair at Harvard has linked NAD+ decline to hallmarks of aging including mitochondrial dysfunction, impaired DNA repair, and metabolic inefficiency. Sirtuins — longevity-associated proteins — are NAD+-dependent. Studies in animal models show significant lifespan and healthspan extension; human trials show improvements in metabolic markers, muscle function, and cognitive performance with NMN/NR supplementation.
Common Uses	Fatigue and energy optimization, metabolic health, cognitive support, longevity protocols, post-illness recovery, mitochondrial support
How It's Given	Oral supplement (NMN/NR), IV infusion (NAD+), or subcutaneous injection
Considerations	<i>Generally well-tolerated. IV NAD+ can cause temporary flushing, muscle cramping, or nausea during infusion. Quality and purity vary widely in supplement form — sourcing matters.</i>

Important Context for All Peptide Therapies

Peptides not FDA-approved for a specific indication are prescribed and dispensed through licensed compounding pharmacies. Quality varies significantly by pharmacy. Encompass Care sources from accredited, PCAB-certified or 503B facilities to ensure purity and potency.

No peptide is appropriate for every person. Your provider will evaluate your full health history, current lab work, symptoms, and goals before recommending any peptide therapy. This guide is educational — it is not a prescription or recommendation for your individual care.

Many widely used medications are prescribed off-label. FDA approval reflects whether a drug company has funded the costly approval process for a specific indication — not the full scope of a compound's safety or utility. That said, not all peptides have equivalent evidence bases, and your provider will always discuss the strength of evidence with you.



Most peptide protocols require baseline labs and periodic monitoring (e.g., IGF-1 for GH secretagogues, hormonal panels for reproductive peptides). This ensures both safety and that your protocol is actually working.

Ready to discuss whether peptide therapy is right for you?

Bring your questions to your next visit, or reach out to schedule a dedicated conversation.

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