

ABOUT THE SPEAKER

Dr. Hardik Ganatra

BOARD-CERTIFIED PLASTIC SURGEON



- 10 years of exclusive body contouring practice



- Special interest in longevity medicine and wellness



- Holistic approach to body transformation



- Attended the SEEDS Protocol program in Orlando in 2025



- Prescribing and using peptides for over 3 years

*Bringing together surgery, wellness,
and peptide-based optimization.*



Why I Started Looking Deeper



2019

Plastic surgeon • fitness advocate • approaching 40

The discipline has not changed.
But recovery is not what it used to be.

Training consistently. Eating well. Staying disciplined.

Long surgical days, heavy decisions and a busier life changed the equation.
That is what made peptides personal for me.

This is why I started looking beyond conventional answers.

The Modern Patient Paradox

Doing everything right—still not feeling right.



Injuries, stress, modern lifestyles and ageing eventually catch up with all of us.

The question is: what can we do about it?

What Patients Keep Telling Us

They train. They eat well. They take supplements. They track their sleep.

Yet many still struggle with:



Poor Recovery

Soreness lasts longer, and recovery feels slower.



Low Energy

Persistent tiredness despite adequate sleep and nutrition.



Poor Sleep

Difficulty falling asleep, staying asleep, or waking refreshed.



Brain Fog

Reduced focus, slower thinking, and less mental sharpness.



Persistent Inflammation

Ongoing aches, stiffness, and difficulty recovering.



Declining Body Composition

Less muscle and more visceral fat despite continued discipline.

These are the patients who made me start looking beyond conventional answers.

What Are Peptides?

Peptides are short chains of amino acids that act as biological messengers, helping the body regulate functions such as growth, repair, metabolism, inflammation and recovery.



Size & Specificity

Usually made up of 2–50 amino acids, peptides are smaller than proteins and often act in a highly specific, receptor-targeted way.



Practical Analogy

Peptides do not usually deliver the final product directly. They signal the body to activate a pathway or produce a response.



Why They Matter Clinically

Because they influence signalling pathways, peptides can affect recovery, metabolism, body composition, inflammation, libido, cognition and tissue repair.

Hormones Replace. Peptides Signal.

These are not the same approach. One replaces a deficiency. The other tries to influence signalling pathways.



Hormone-Based Approach

Used when the patient is clinically deficient and needs replacement.

- ✓ Replaces what the body is no longer producing adequately
- ✓ Appropriate when there is a clear hormonal deficiency
- ✓ Usually produces a broader systemic effect
- ✓ Effective when used for the right indication



Examples: menopause, hypogonadism, endocrine deficiency



Peptide-Based Approach

Used when the goal is to influence signalling rather than directly replace the final hormone.

- ✓ Stimulates or modulates a biological pathway
- ✓ Often more targeted and selective
- ✓ Timing, dose and cycling matter
- ✓ May support recovery, metabolism, sleep, tissue repair and body composition



Examples: growth hormone secretagogues, recovery peptides, metabolic peptides



Important Clinical Point

Peptides are not a substitute for hormone replacement when true deficiency exists. In patients with menopause, clinically significant testosterone deficiency, or other endocrine deficiencies, hormone replacement may be the correct treatment. Peptides can still be used as an adjunct in selected patients, including those already on HRT.

How **Peptide** Signaling Works



Peptides are not just replacements.

They work more like instructions, guiding the body to activate a specific pathway and create a response of its own.

That is what makes peptide therapy different — and often more selective — than simply giving a hormone directly.

CLASSIFICATION OF PEPTIDES

1. MECHANISM-BASED (RECEPTOR-BASED) CLASSIFICATION

Classified according to the primary receptor or signalling pathway through which the peptide exerts its biological effects.

1		GH Axis Peptides	Act via GHRH, GHS-R (ghrelin receptor) or GH pathways to stimulate GH release or activity.
2		Regenerative / Repair Peptides	Act on growth factors, cytokines and matrix pathways to promote tissue repair and regeneration.
3		Metabolic / Mitochondrial Peptides	Target metabolic regulators, AMPK, insulin signalling, mitochondrial biogenesis and energy pathways.
4		Neuroactive Peptides	Act on neuropeptide receptors to modulate neurotransmission, neuroprotection and cognition.
5		Immune-Modulating Peptides	Influence immune cell function, cytokine balance and inflammatory pathways.
6		Sleep-Regulating Peptides	Act on CNS pathways and neurotransmitters involved in sleep regulation.
7		Longevity / Anti-Ageing Peptides	Modulate ageing-related pathways including DNA repair, autophagy, telomere maintenance and sirtuins.
8		Melanocortin Peptides	Act on melanocortin receptors (MC1R, MC3R, MC4R, MC5R) to regulate pigmentation, appetite, libido and energy balance.

CLASSIFICATION OF PEPTIDES

2. INDICATION-BASED CLASSIFICATION

Classified according to their primary clinical use or therapeutic goal in practice.

1



Body Recomposition

2



Regeneration & Recovery

3



Weight Loss & Fat Loss

4



Focus, Memory & Cognitive Support

5



Sexual Wellness

6



Pigmentation Enhancement

7



Immune Support

8



Sleep Support

9



Energy Support

10



Anti-Ageing & Longevity



For the rest of this presentation, I will discuss peptides according to their **clinical indication and practical use case**.

Category 1 — Body Recomposition

GH-axis peptides and related compounds used to support recovery, sleep, lean mass and body composition.



Key Compounds

- **Ipamorelin** — selective GH secretagogue
- **CJC-1295 / CJC-1295 DAC** — GHRH analogue
- **Sermorelin** — short-acting GHRH analogue
- **Tesamorelin** — visceral fat reduction focus
- **MK-677** — oral GH secretagogue, not a peptide



Clinical Use Cases



Recovery support



Sleep quality



Lean mass preservation



Body recomposition



Visceral fat reduction in selected patients



These compounds are not interchangeable. Patient selection, informed consent and monitoring are essential.

Category 2 — Regeneration & Recovery

Peptides studied for tissue repair, wound healing and recovery after injury or procedures.



Key Compounds

- **BPC-157** — tissue repair and gut-support research
- **TB-500 / Thymosin β 4-related** — cell migration, angiogenesis and wound repair pathways
- **GHK-Cu** — copper peptide for collagen, ECM remodelling and skin repair



Clinical Use Cases

- Post-procedure recovery
- Tendon and ligament rehabilitation
- Muscle and soft-tissue injury
- Wound and skin support
- Collagen and extracellular-matrix support

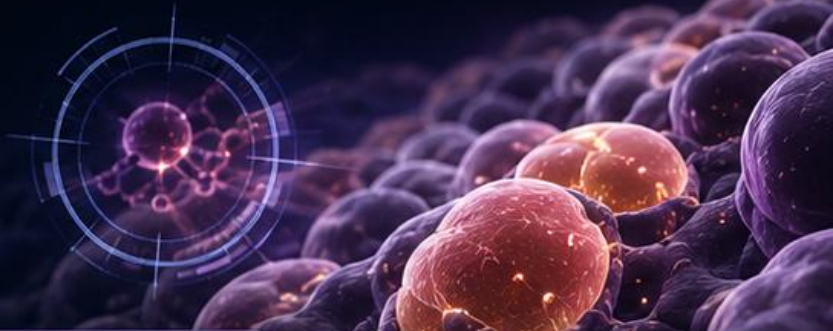


These compounds do not all have the same evidence base. Many proposed uses remain **experimental**, so sourcing, **informed consent** and **realistic expectations** are essential.

CATEGORY 3

WEIGHT LOSS & FAT LOSS

Established incretin therapies alongside emerging peptides studied for appetite, fat metabolism and metabolic health.



ESTABLISHED THERAPIES

Approved medications with strong clinical evidence



SEMAGLUTIDE

GLP-1 receptor agonist

- Reduces appetite and caloric intake
- Promotes weight loss and maintenance
- Approved for chronic weight management in eligible patients



TIRZEPATIDE

Dual GIP/GLP-1 receptor agonist

- Enhances satiety and improves glycemic control
- Produces significant and sustained weight reduction
- Approved for long-term weight management; also has OSA indication in the US



EMERGING METABOLIC PEPTIDES

Investigational or with limited clinical evidence



RETATRUTIDE

Triple GIP/GLP-1/glucagon receptor agonist

- Potent weight loss observed in phase 2/3 trials
- Currently in phase 3 trials for obesity
- Not yet an approved therapy



AOD-9604

Modified growth hormone fragment

- Studied for effects on fat metabolism and lipolysis
- Clinical evidence for meaningful weight loss is limited
- Not approved for any indication



MOTS-c

Mitochondrial-derived peptide

- Studied for insulin sensitivity, metabolic flexibility and energy regulation
- Mostly preclinical evidence; limited human data
- Not approved for any indication

CLINICAL USE CASES



Appetite regulation and satiety



Weight reduction and maintenance



Insulin resistance and metabolic health



Visceral and central adiposity



Metabolic flexibility and energy balance

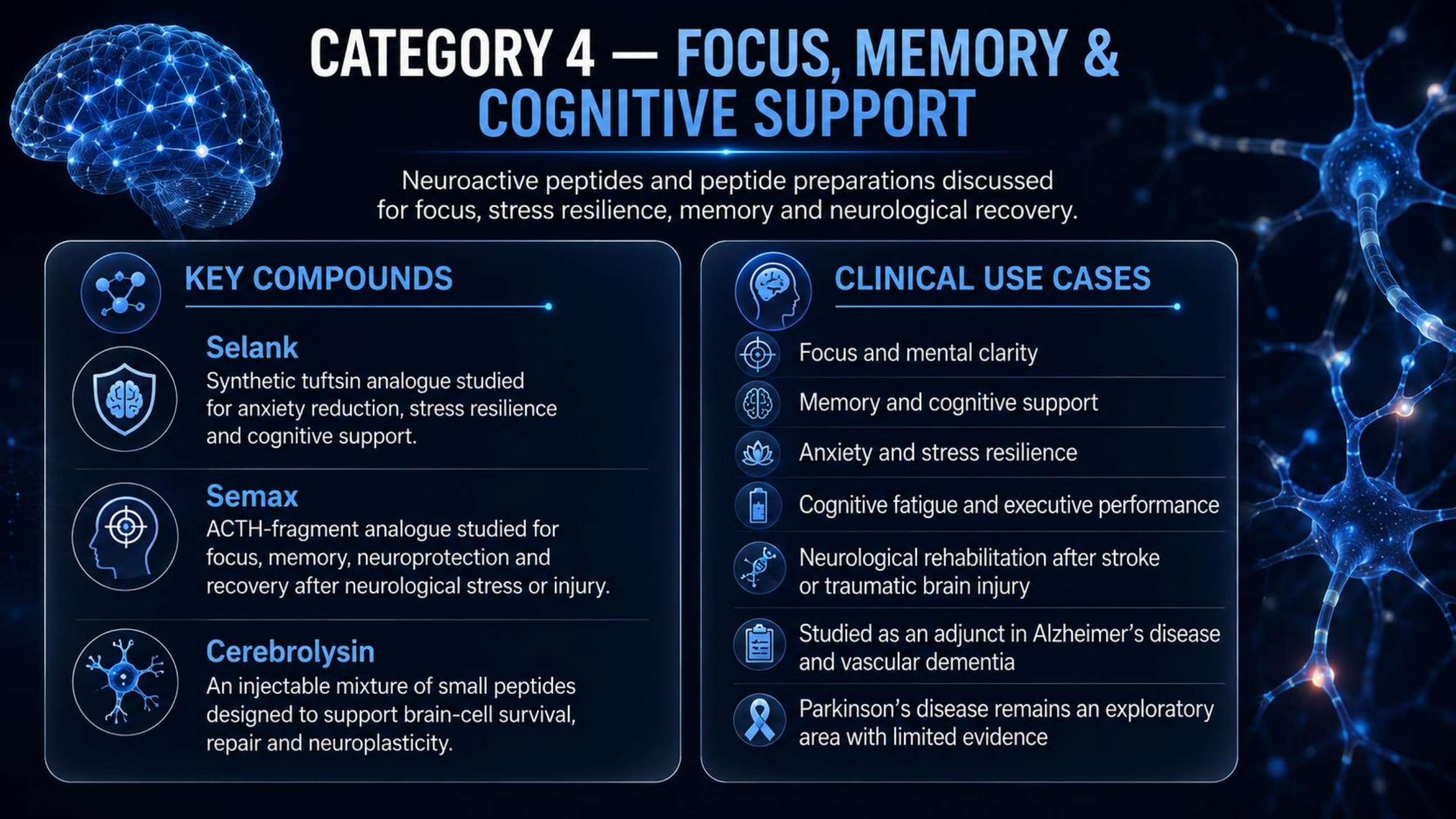


Support lean mass with adequate protein and resistance training



These compounds should not be presented as equivalent. Semaglutide and tirzepatide have **established clinical indications**; retatrutide, AOD-9604 and MOTS-c remain **investigational** or have substantially **weaker evidence**.





CATEGORY 4 — FOCUS, MEMORY & COGNITIVE SUPPORT

Neuroactive peptides and peptide preparations discussed for focus, stress resilience, memory and neurological recovery.



KEY COMPOUNDS



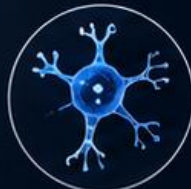
Selank

Synthetic tuftsin analogue studied for anxiety reduction, stress resilience and cognitive support.



Semax

ACTH-fragment analogue studied for focus, memory, neuroprotection and recovery after neurological stress or injury.



Cerebrolysin

An injectable mixture of small peptides designed to support brain-cell survival, repair and neuroplasticity.



CLINICAL USE CASES



Focus and mental clarity



Memory and cognitive support



Anxiety and stress resilience



Cognitive fatigue and executive performance



Neurological rehabilitation after stroke or traumatic brain injury



Studied as an adjunct in Alzheimer's disease and vascular dementia



Parkinson's disease remains an exploratory area with limited evidence

Category 5 — Sexual Wellness

Peptides that influence sexual desire, arousal, melanocortin signalling and reproductive hormone pathways.



PT-141 / Bremelanotide

Centrally acting melanocortin agonist. FDA-approved as Vyleesi for acquired, generalized HSDD (Hypoactive Sexual Desire Disorder) in selected premenopausal women. Useful in discussions around low desire and arousal support.



Kisspeptin

Primarily a reproductive-signalling peptide. Works by stimulating GnRH release, which then drives LH and FSH secretion. Emerging research suggests a possible role in sexual desire and emotional/sexual brain processing.



Melanotan II

Experimental melanocortin analogue associated with pigmentation and libido effects. Important concerns include nausea, flushing, headache, spontaneous erections, mole/freckle darkening, sourcing uncertainty, and broader safety concerns.



Clinical use cases

- Low libido / low desire
- Female HSDD
- Arousal support
- Reproductive-axis signalling
- Selected off-label male sexual-wellness discussions



Sexual wellness is rarely only a peptide issue. Always assess hormones, medications, sleep, stress, relationship factors and cardiovascular risk.

Category 6 — Pigmentation Enhancement

Melanocortin-based therapy that stimulates melanin production and increases protection from light exposure.



**Synthetic analogue
of alpha-MSH**



**Activates the
MC1 receptor**



**Increases production of
eumelanin — the darker,
protective pigment in skin**



Clinical Context

- Used in erythropoietic protoporphyria to improve tolerance to sunlight
- May be used when increasing protective pigmentation is beneficial
- Investigational use in vitiligo, a hypopigmentation disorder



Common Adverse Effects

- Nausea
- Headache
- Implant-site pain or redness
- Excessive or uneven skin darkening



Caution: One misuse of this therapy is cosmetic tanning. Unregulated or excessive darkening can be problematic, so physician guidance and appropriate indication are essential.

CATEGORY 7

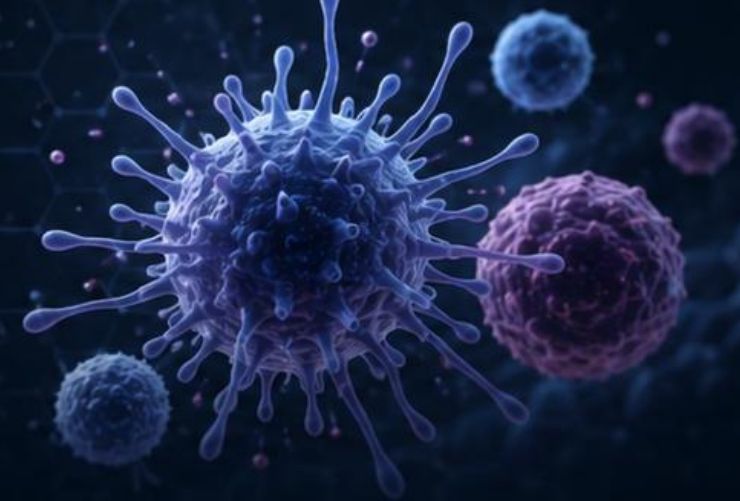
IMMUNE SUPPORT

Peptides that help regulate immune signalling — not simply boost immunity.



THYMOSIN ALPHA-1 / THYMALFASIN

A naturally occurring 28-amino-acid thymic peptide that helps coordinate immune function.



Thymus
signal



T-cell
support



Dendritic /
NK-cell
activity



Balanced
immune
response



HOW IT WORKS

- Supports T-cell maturation and activity
- Influences dendritic cells and natural-killer cells
- Helps regulate cytokine signalling
- May help restore balance when immune function is impaired or dysregulated



CLINICAL CONTEXTS STUDIED

- Immune dysfunction after severe illness
- Chronic viral infections as an adjunct
- Vaccine-response support in selected immunocompromised patients
- Critical-care and sepsis research
- Adjunctive immune support in selected oncology settings
- Age-related decline in immune resilience



Thymosin Alpha-1 is better described as an immune modulator than an immune booster. Immune stimulation is not automatically beneficial; autoimmune disease, active infection, cancer treatment, transplantation, and immunosuppressive medication require specialist assessment.



Category 8 — Sleep Support

An experimental peptide studied for its possible effects on sleep regulation, sleep continuity and restorative sleep.

DSIP — Delta Sleep-Inducing Peptide

A naturally occurring neuropeptide studied for its possible role in regulating the sleep-wake cycle.



Proposed Effects

- May influence sleep regulation, not act like a conventional sedative
- Studied for disrupted sleep patterns
- May affect slow-wave / restorative sleep
- Explored in stress and neuroendocrine regulation



Potential Clinical Contexts

- Fragmented sleep
- Waking unrefreshed
- Stress or overtraining-related sleep issues
- Recovery limited by poor-quality sleep



Clinical note: DSIP remains experimental and should not be presented as an established treatment for insomnia. First evaluate sleep apnoea, medications, alcohol or stimulant use, anxiety, hormonal factors and sleep habits.

Category 9 — Energy Support

Compounds discussed for cellular energy production, mitochondrial signalling and metabolic resilience.



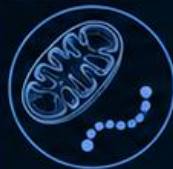
NAD+ / NR / NMN

- NAD+ is a cellular coenzyme involved in energy production and DNA repair. It is not a peptide.
- NR (nicotinamide riboside) and NMN (nicotinamide mononucleotide) are precursors used to raise NAD+ levels.
- From a practical scientific standpoint, oral NR and NMN are generally more useful than oral NAD+ itself.
- NR has more human clinical data; NMN is increasingly studied; IV NAD+ is used in wellness settings but outcome evidence remains limited.



Practical Takeaway

For raising NAD+, NR $\approx$ NMN > oral NAD+
IV NAD+: direct delivery, limited human outcome data



MOTS-c

- A mitochondrial-derived peptide studied for metabolic signalling and cellular stress adaptation.
- Discussed for insulin sensitivity, exercise adaptation and metabolic resilience.
- Human therapeutic data remain limited; most evidence is still preclinical or early-stage.

Potential Clinical Contexts



Persistent fatigue after common causes are addressed



Metabolic resilience and insulin sensitivity



Exercise recovery and physical performance



High-demand or high-stress patients



Mitochondrial-health discussions



Clinical Note

NAD+ is not a peptide, and MOTS-c remains experimental. Neither should be presented as a guaranteed solution for low energy or fatigue. Sleep disorders, anaemia, thyroid dysfunction, nutritional deficiencies and metabolic disease must be assessed first.

Category 10 — Anti-Ageing & Longevity

Peptides and related compounds discussed for healthy ageing, cellular resilience and longevity biology.



Epitalon

- Synthetic tetrapeptide derived from pineal peptide research.
- Studied in relation to telomerase activity, cellular ageing and circadian regulation.
- Human longevity claims remain unproven; most evidence is still preclinical or limited.

What it is studied for

-  Cellular resilience
-  Circadian support
-  Healthy ageing discussions
-  Oxidative-stress pathways



Key Longevity Themes

- Telomere and telomerase biology
- Circadian rhythm and sleep regulation
- Stress resistance and cellular maintenance
- Adjunctive longevity strategies rather than stand-alone solutions



Related Crossover Compounds



NAD+ / NR / NMN —
cellular energy and
DNA-repair support



MOTS-c —
mitochondrial and
metabolic resilience



GHK-Cu —
skin, collagen and
tissue-ageing support

These belong primarily in earlier categories but are often discussed within broader longevity protocols.



Clinical Note

No peptide has been proven to stop or reverse human ageing. Longevity protocols should prioritise cardiovascular risk reduction, exercise, sleep, nutrition and screening first. Peptides remain adjunctive, and in many cases investigational.



The Peptide Ecosystem at a Glance

A practical reference summary for physician-guided peptide and peptide-adjacent protocols.

Use with individual assessment, informed consent and regulatory awareness.



 CATEGORY	 KEY COMPOUNDS	 CLINICAL FOCUS	 QUICK NOTE
 Body Recomposition	Ipamorelin, CJC-1295, CJC-1295 DAC, Sermorelin, Tesamorelin	Recovery, sleep quality, lean mass support, body composition, visceral fat	Mostly off-label; Tesamorelin is FDA approved for HIV lipodystrophy.
 Regeneration & Recovery	BPC-157, TB-500, GHK-Cu	Tissue healing, tendon/ligament support, post-procedure recovery, skin and ECM support	Evidence varies; many uses remain experimental
 Weight Loss & Fat Loss	Semaglutide, Tirzepatide, Retatrutide, AOD-9604, MOTS-c	Appetite control, weight loss, insulin resistance, visceral fat, metabolic health	Sema/Tirz established; others are emerging or investigational
 Focus, Memory & Cognitive Support	Selank, Semax, Cerebrolysin	Focus, stress resilience, memory support, cognitive fatigue, neurorecovery	Approvals vary by country; evidence is uneven
 Sexual Wellness	PT-141, Kisspeptin, Melanotan II	Libido, arousal, HSDD, reproductive signalling	PT-141 approved for HSDD; MT-II has safety and sourcing concerns
 Pigmentation Enhancement	Afamelanotide / Melanotan I	Eumelanin production, photoprotection, sunlight tolerance, vitiligo research	Not for cosmetic tanning; may cause excessive darkening
 Immune Support	Thymosin Alpha-1	Immune modulation, T-cell support, NK-cell activity, immune resilience	Best viewed as an immune modulator, not simply a booster
 Sleep Support	DSIP	Sleep regulation, restorative sleep, stress-related sleep issues	Experimental; human evidence is limited and inconsistent
 Energy Support	NAD+, NR, NMN, MOTS-c	Cellular energy, mitochondrial support, metabolic resilience, fatigue discussions	NAD+ is not a peptide; for raising NAD+, NR ≈ NMN > oral NAD+
 Anti-Ageing & Longevity	Epitalon	Healthy ageing, circadian support, cellular resilience, longevity discussions	Adjunctive and investigational; not a proven anti-ageing therapy



Clinical note: Peptides are adjunctive tools, not stand-alone solutions. Patient selection, baseline work-up, responsible sourcing, and regulatory awareness are essential.

What Is a Peptide Stack?

A peptide stack is a physician-designed combination of two or more peptides chosen to work together toward **one clear clinical goal**.



Complementary Signals

Each peptide should support the same outcome through a different mechanism — not duplicate the same action.



Smart Timing

When a peptide is taken can matter almost as much as which peptide is chosen. Timing affects the quality of the response.



Keep It Simple

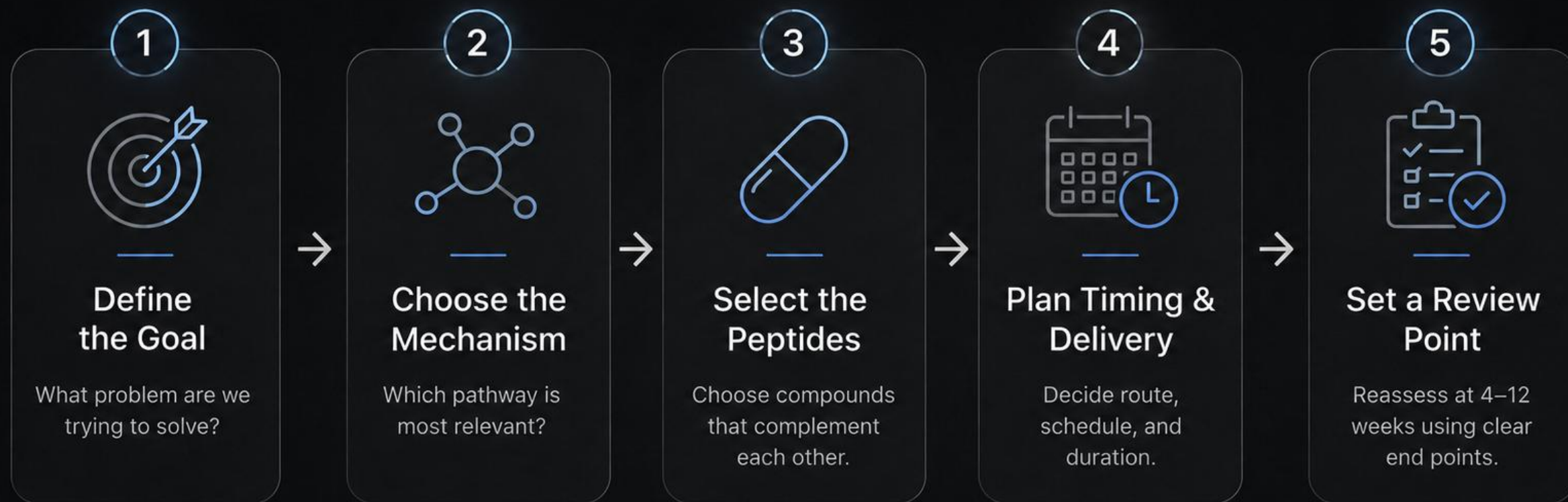
More compounds are not automatically better. The best stacks are usually focused, lean, and easy to monitor.



The goal is biological synergy — not random stacking.

How to Build a Rational Stack

A good stack is designed like a clinical protocol: **start with the problem**, then choose the mechanism, then choose the compounds.



A good stack is built around a clinical goal — not just adding more compounds.

What Goes Wrong in Stacking

Most poor stacks fail because the protocol is built around compounds instead of the **patient's biology**.



Choosing the compound first

Stacks built around trends, hype, or patient requests usually miss the real clinical problem.



Ignoring the baseline

Without symptoms, labs, and context, it is impossible to choose rationally or monitor properly.



Running protocols without an end point

If the goal is not defined, there is no clear way to judge success, failure, or when to stop.



Too many compounds at once

When everything starts together, side effects and benefits become hard to interpret.



A stack without a clinical question is just an expensive experiment.



Well-Known Peptide Stacks Found Online

Common market and internet stack names. These combinations are popular online, but their exact composition can vary and they are not standardized medical protocols.

1



Wolverine Stack

CORE COMPOUNDS: BPC-157 + TB-500
MARKETED FOR: Recovery, soft-tissue healing, tendon / ligament support

2



GLOW Stack

CORE COMPOUNDS: BPC-157 + TB-500 + GHK-Cu
MARKETED FOR: Recovery, collagen support, skin quality, aesthetic healing

3



KLOW Stack

CORE COMPOUNDS: BPC-157 + TB-500 + GHK-Cu + KPV
MARKETED FOR: Recovery, skin support, inflammation and gut-immune support

4



GH / Body Recomposition Stack

CORE COMPOUNDS: CJC-1295 + Ipamorelin
MARKETED FOR: Sleep, recovery, body recomposition, lean-mass support

5



Energy / Mitochondrial Stack

CORE COMPOUNDS: MOTS-c + NAD+
MARKETED ADD-ON: SS-31
MARKETED FOR: Energy, mitochondrial function, metabolic support, recovery

6



Sexual Wellness Stack

CORE COMPOUNDS: PT-141 + Kisspeptin
MARKETED FOR: Libido, arousal, sexual wellness, reproductive signalling

7



Muscle Gain / IGF Stack

CORE COMPOUNDS: IGF-1 LR3 or IGF-1 DES
ADVANCED ADD-ON: Sometimes combined with CJC-1295 + Ipamorelin
MARKETED FOR: Anabolic signalling, muscle gain, training recovery

8



Longevity Stack

CORE COMPOUNDS: Epitalon + MOTS-c + NAD+
ADVANCED ADD-ON: Sometimes includes GHK-Cu
MARKETED FOR: Healthy ageing, resilience, mitochondrial support, recovery



CLINICAL NOTE: These are well-known market or internet stack names. Exact formulations vary by clinic, supplier, and website. Some stacks also include non-peptide adjuncts such as NAD+.

WOLVERINE STACK

BPC-157 + TB-500



1) WHY IT BECAME POPULAR

- Simple recovery-focused stack
- Strong online word-of-mouth
- Frequently marketed for injury support



2) COMMON USE CASES

- Tendon / ligament irritation
- Post-training soreness and recovery
- Soft-tissue healing support
- Post-procedure recovery framing



3) WHO I WOULD CONSIDER IT FOR

- Active patients with recurrent overuse issues
- Fitness-focused adults recovering from minor injuries
- Post-procedure patients needing recovery support
- Not a first-line answer for serious structural pathology



4) TYPICAL PROTOCOL

- Common market pairing: BPC-157 + TB-500
- Often used for 4–8 weeks
- Reassess response before extending



5) CYCLING / COMING OFF

- Usually not intended as indefinite therapy
- Many clinicians reassess and stop after the planned cycle
- If repeating, allow a short washout and review the clinical goal



Why the name? It became famous online as a fast-recovery stack — marketed as helping patients ‘heal like a wolverine.’



Clinical note: evidence quality varies; most use is off-label or experimental and should be physician-supervised.

GLOW STACK

Recovery. Collagen Support. Skin Quality.



CORE PEPTIDES: BPC-157 + TB-500 + GHK-Cu

MARKETED FOR: Recovery, collagen support, skin quality, aesthetic healing

1 WHY IT'S POPULAR

The GLOW Stack builds on the Wolverine concept by combining repair peptides with GHK-Cu for collagen support, skin quality, and aesthetic recovery. It is commonly marketed online for post-procedure healing and regenerative skin support.

2 WHAT IT'S USEFUL FOR

- ✓ Post-procedure recovery
- ✓ Skin quality and texture support
- ✓ Collagen and ECM support
- ✓ Soft-tissue healing support
- ✓ Aesthetic recovery

3 ROLE OF EACH PEPTIDE



BPC-157

local repair and recovery support



TB-500

broader regenerative and recovery support



GHK-Cu

collagen support, ECM remodeling, skin quality



CLINICAL PEARL: The GLOW Stack is often presented online as a skin-and-recovery stack. It works best when paired with good nutrition, adequate protein, sleep, hydration, and appropriate skincare.



SAFETY NOTE: For physician-guided use only. Online stack names are not standardized protocols.



TYPICAL DURATION

6-12 weeks, depending on goals and response



CYCLING OFF

Reassess after the initial cycle; allow a short break if continuing in phases



BEST SUITED FOR

Aesthetic patients, post-procedure recovery, skin-quality optimization

KLOW STACK

Recovery. Gut Support. Skin Repair.



CORE PEPTIDES: BPC-157 + TB-500 + GHK-Cu + KPV

MARKETED FOR: Recovery, skin support, inflammation and gut-immune support

1 WHY IT'S POPULAR

The KLOW Stack builds on the GLOW Stack by adding KPV for inflammation and gut-support framing. It is commonly marketed online for patients who want recovery support with an added focus on gut health, skin quality, and overall healing.

2 WHAT IT'S USEFUL FOR

- ✓ Post-procedure recovery
- ✓ Gut-support and inflammation framing
- ✓ Skin quality and texture support
- ✓ Collagen and ECM support
- ✓ Soft-tissue healing support
- ✓ Aesthetic recovery

3

ROLE OF EACH PEPTIDE



BPC-157

local repair and recovery support



TB-500

broader regenerative and recovery support



GHK-Cu

collagen support, ECM remodeling, skin quality



KPV

anti-inflammatory and gut-support framing



CLINICAL PEARL: The KLOW Stack is often presented online as a recovery-plus-gut-support stack. It works best when paired with good nutrition, adequate protein, sleep, hydration, and attention to gut health basics.



SAFETY NOTE: For physician-guided use only. Online stack names are not standardized protocols.



HEALTHY SKIN & RADIANCE



STRONG IMMUNE FOUNDATION



GUT HEALTH & BALANCE



TYPICAL DURATION

6–12 weeks, depending on goals and response



CYCLING OFF

Reassess after the initial cycle; allow a short break if continuing in phases



BEST SUITED FOR

Patients seeking recovery support with added skin and gut-health focus

BODY RECOMPOSITION STACK

Sleep. Recovery, Lean-Mass Support. Body Composition.

 **CORE PEPTIDES:** CJC-1295 + Ipamorelin

 **MARKETED FOR:** recovery, sleep quality, body recomposition, lean-mass support

1

WHY IT'S POPULAR

- Common GH-axis pairing found online
- Positioned as a gentler alternative to direct GH use
- Appeals to busy adults wanting recovery and body composition support

2

WHAT IT'S USEFUL FOR

- Recovery and training adaptation
- Sleep quality support
- Lean-mass preservation
- Visceral-fat / body composition discussions
- Not a substitute for diet and resistance training

3

ROLE OF EACH PEPTIDE

CJC-1295: GHRH analogue; supports GH-axis signalling

Ipamorelin: selective GH secretagogue; stimulates GH pulse release



Clinical pearl: This stack only makes sense when training, protein intake, sleep and baseline endocrine assessment are already addressed.



Safety note: online stack names are not standardized protocols; use requires physician supervision, appropriate sourcing and monitoring.



TYPICAL REVIEW POINT:

8-12 weeks, depending on goals and response



CYCLING OFF:

Pause and reassess; avoid indefinite unsupervised use



BEST SUITED FOR: disciplined patients with recovery, sleep and body-composition goals

ENERGY / MITOCHONDRIAL STACK

Cellular Energy. Mitochondrial Function. Metabolic Resilience.



CORE COMPOUNDS:
MOTS-c + NAD+



ADVANCED ADD-ON:
SS-31 / Elamipretide

1



WHY IT'S POPULAR

- Marketed for energy and recovery
- Appeals to busy, high-demand patients
- Focuses on mitochondria rather than stimulation

2



WHAT IT'S USEFUL FOR

- Fatigue discussions after common causes are addressed
- Exercise recovery and performance support
- Metabolic flexibility and insulin-sensitivity framing
- Mitochondrial-health conversations

3



ROLE OF EACH COMPOUND

MOTS-c

mitochondrial-derived peptide; metabolic signalling and stress adaptation

NAD+

cellular coenzyme; energy production and DNA-repair support; not a peptide

SS-31

mitochondrial-targeted peptide; cardiolipin / inner-membrane support



TYPICAL REVIEW POINT:

6–10 weeks, depending on goals and response



CYCLING OFF:

pause and reassess; avoid indefinite unsupervised use



BEST SUITED FOR:

high-demand patients after sleep, thyroid, anaemia, nutrition and metabolic causes are reviewed



CLINICAL PEARL: Energy stacks should support the foundation — sleep, nutrition, training and metabolic health still come first.



SAFETY NOTE: For physician-guided use only. NAD+ is not a peptide; MOTS-c remains experimental; SS-31 has specific medical-development context.



SEXUAL WELLNESS STACK

Desire. Arousal. Reproductive Signalling.



CORE COMPOUNDS: PT-141 + Kisspeptin



MARKETED FOR: libido, arousal, sexual wellness, reproductive-axis signalling

WHY IT'S POPULAR

- Sexual wellness is a high-interest topic online
- Combines central arousal signalling with reproductive-axis signalling
- Often marketed when libido is not explained by vascular issues alone

WHAT IT'S USEFUL FOR

- Low libido / low desire discussions
- Female HSDD conversations
- Arousal support
- Reproductive-axis evaluation
- Selected male sexual-wellness discussions

ROLE OF EACH COMPOUND

PT-141: centrally acting melanocortin agonist; supports desire and arousal pathways

Kisspeptin: stimulates GnRH signalling, then LH / FSH release; primarily reproductive medicine with emerging sexual-desire research

CLINICAL PEARL:

sexual wellness is rarely only a peptide issue — evaluate biology, psychology, medications, sleep and relationships.



TYPICAL REVIEW POINT:

after initial supervised use or 4–8 weeks depending on indication



CYCLING OFF:

not intended as indefinite unsupervised therapy; stop if no meaningful benefit or adverse effects



BEST SUITED FOR:

selected patients after hormones, medications, cardiovascular risk, sleep, stress and relationship factors are assessed

SAFETY NOTE:

PT-141 may cause nausea, flushing and transient blood-pressure changes; Kisspeptin use remains indication-specific and investigational in many wellness settings.

MUSCLE GAIN / IGF STACK

Anabolic Signalling. Training Recovery. Lean-Mass Discussion.



CORE COMPOUNDS:

IGF-1 LR3 or IGF-1 DES



ADVANCED ADD-ON:

sometimes paired with CJC-1295 + Ipamorelin



MARKETED FOR:

anabolic signalling, muscle gain, training recovery



1. WHY IT'S POPULAR

- Commonly discussed in bodybuilding and performance circles
- Positioned as a direct IGF-pathway anabolic signal
- Appeals to trained patients seeking lean-mass support and faster recovery



2. WHAT IT'S USEFUL FOR

- Muscle-gain discussions
- Training recovery and adaptation
- Lean-mass support in selected patients
- Not a substitute for protein, progressive overload, sleep or endocrine assessment



3. ROLE OF EACH COMPOUND

IGF-1 LR3:

longer-acting IGF-1 analogue; systemic anabolic signalling discussion

IGF-1 DES:

shorter-acting IGF-1 analogue; often marketed for local / training-window effects

CJC-1295 + Ipamorelin:

GH-axis support; indirect IGF-1 pathway support



TYPICAL REVIEW POINT:

4–8 weeks, depending on goals, tolerance and markers



CYCLING OFF:

pause and reassess; avoid indefinite unsupervised use



BEST SUITED FOR:

advanced, well-trained patients after nutrition, training and baseline labs are addressed



CLINICAL PEARL:

This is one of the most aggressive internet stack conversations. It should be framed as **high-caution**, **physician-supervised** and not first-line wellness therapy.



SAFETY NOTE:

IGF-pathway agents may affect glucose regulation and tissue-growth signalling. Avoid in patients with active malignancy risk concerns, unexplained lesions, uncontrolled diabetes or poor monitoring. Evidence and legality vary by jurisdiction.

LONGEVITY STACK

Healthy Ageing. Cellular Resilience. Mitochondrial Support.



CORE COMPOUNDS:

Epitalon + MOTS-c + NAD+



ADVANCED ADD-ON:

sometimes includes
GHK-Cu



MARKETED FOR:

healthy ageing,
resilience, mitochondrial
support, recovery

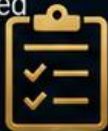
1 WHY IT'S POPULAR

- Appeals to patients interested in healthspan and longevity
- Combines mitochondrial, cellular energy and circadian-ageing themes
- Often marketed as an anti-ageing and resilience stack



2 WHAT IT'S USEFUL FOR

- Healthy-ageing discussions
- Cellular resilience and recovery support
- Energy and mitochondrial-health framing
- Circadian rhythm and sleep-quality support
- Skin and tissue-ageing support when GHK-Cu is included



3 ROLE OF EACH COMPOUND

EPITALON



circadian and telomere-related ageing research

MOTS-C



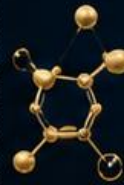
mitochondrial and metabolic resilience

NAD+



cellular energy and DNA-repair support; not a peptide

GHK-CU



collagen, skin and tissue-quality support



TYPICAL REVIEW POINT:

6–12 weeks, depending on goals and response



CYCLING OFF:

component-specific; avoid indefinite unsupervised use



BEST SUITED FOR:

patients seeking healthy ageing support after lifestyle, screening and baseline labs are addressed



CLINICAL PEARL:

Longevity stacks should support the foundation — exercise, sleep, nutrition, metabolic health and screening still come first.



SAFETY NOTE:

No peptide has been proven to stop or reverse human ageing. These combinations are adjunctive, often investigational, and require physician-guided use.



My Personal Peptide Protocol

A real-world example of how I have personally used peptides alongside disciplined training, nutrition, supplementation, and monitoring.

1



Phase 1 — Injury Recovery (6 Weeks)

- Old gym injury / persistent pain
- **Used:** BPC-157 + TB-500
- Started only after general blood tests were satisfactory.
- **Goal:** support recovery and reduce pain.

2



Phase 2 — Body Recomposition (6 Weeks)

- **Used:** Ipamorelin + CJC-1295
- **Goal:** support lean muscle mass, recovery, and fat loss.
- Followed by a 4-week break.

3



Phase 3 — Advanced Training Cycle (Next 6 Weeks)

- Resumed Ipamorelin + CJC-1295
- **Added:** IGF-1 LR3 only on heavy training days, immediately post-workout.
- **Plan:** cycle off again for 4–6 weeks afterward.
- Use of IGF-1 LR3 may vary depending on muscle-gain goals.

4



Lifestyle Foundations

- Resistance training: 5 days/week
- Zone 2 cardio: 4 sessions/week
- Zone 5 cardio: 2 sessions/week
- Sleep: 7–8 hours/night, near-consistent timing
- Protein: ~150 g/day
- Calories: ~2,400/day ($\pm$ 200–300)



Supplementation

- Berberine: 1,500 mg/day (split in 3 doses)
- Creatine: 10 g/day
- Ashwagandha
- Shilajit gummies
- L-carnitine: 1–2 g/day
- Vitamin D: 6,000 IU/day



Monitoring Before / During / After

- General blood tests
- IGF-1 levels
- Fasting glucose
- Fasting insulin / insulin resistance
- Lipid profile
- Extra attention because of family history of heart disease.

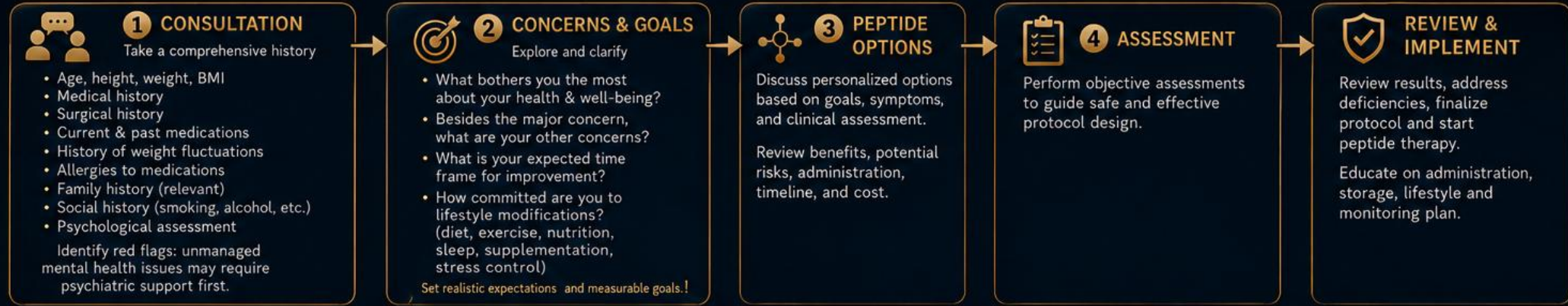


Personal protocol example — individualized, goal-dependent, and always paired with blood-test monitoring, nutrition, training, sleep, and supplementation.



HOW TO DESIGN A PEPTIDE PROTOCOL

A SYSTEMATIC, PATIENT-CENTERED APPROACH



COMMON CONCERNS PRESENTED & EXAMPLES OF PEPTIDE OPTIONS

COMMON CONCERNS / GOALS	COMMONLY CONSIDERED PEPTIDES (EXAMPLES)
 Body Fat Loss / Weight Management (Obesity)	GLP-1 receptor agonists (Semaglutide, Tirzepatide), Retatrutide (when appropriate), AOD-9604, CJC-1295 + Ipamorelin
 Body Recomposition / Lean & Fit	CJC-1295 + Ipamorelin, MK-677, Tesamorelin, MOTS-c, Amino-1-MQ, Epitalon
 Muscle Gain / Strength	IGF-1 LR3, CJC-1295 + Ipamorelin, MK-677, Amino-1-MQ, Beta-Alanine (adjunct)
 Recovery from Injury / Joint & Tissue Repair	BPC-157, TB-500, GHK-Cu, Thymosin Beta-4
 Skin Health / Anti-Aging / Glow	GHK-Cu, Epitalon, BPC-157, Polypeptide-121, Melanotan II (as appropriate), Collagen peptides (oral)
 Sexual Wellness / HSDD / Libido	PT-141, Kisspeptin-10, Bremelanotide, L-Carnitine (adjunct), DHEA (if low)
 Low Energy / Fatigue / High Stress Jobs	MOTS-c, NAD+ (or NMN/NR), BPC-157, Rhodiola (adjunct), Adaptogens (adjunct)
 Cognitive Focus / Brain Health	Semax, Selank, Cerebrolysin, Nootropes, NAD+ (or NMN/NR)
 Gut Health / Inflammation	BPC-157, Thymosin Alpha-1, MOTS-c, GLP-2, Lactoferrin (adjunct)

i Peptide selection is individualized based on full assessment, goals and clinical judgment. Lifestyle, nutrition and sleep remain foundational.

OBJECTIVE ASSESSMENT

A. PHYSICAL ASSESSMENT	B. LABORATORY TESTING	2. PEPTIDE-SPECIFIC / TARGETED TESTS
 • Body measurements (weight, BMI, waist/hip, neck, arms, thighs, etc.) • Body composition analysis (InBody or DEXA scan) – % Body Fat – Lean Muscle Mass – Segmental Muscle Mass – Segmental Fat Mass – Visceral Fat Level – Total Body Water • Standardized photographs (front, back, sides)	 1. GENERAL / BASELINE TESTS • CBC, CMP • Lipid profile • Thyroid panel (TSH, Free T3, Free T4) • HbA1c • Vitamin D, B12, Folate • Ferritin, Iron studies • Magnesium, Zinc • CRP, ESR • Urinalysis • ECG (as indicated)	• Fasting glucose, Fasting insulin, HOMA-IR (GLP-1s, metabolic) • IGF-1 level (for IGF-1 LR3 or GH axis peptides) • Sex hormones: Total & Free Testosterone, SHBG, E2, Progesterone (as indicated) • Cortisol (AM), DHEA-S • Homocysteine • Omega-3 index • Specific peptide levels (when available) • Fatigue / energy work-up: Ferritin & iron studies, Vitamin B12, Folate, Vitamin D
C.. ADVANCED / OPTIONAL TESTS (AS INDICATED) • Gut microbiome analysis • Food sensitivity / intolerance testing • Heavy metals • Methylation (MTHFR) • Oxidative stress markers • Telomere length • Epigenetic age • VO₂ max / Fitness testing		
★ Not all tests are needed for every patient. Order based on clinical context and goals.		



REVIEW & OPTIMIZE

- Review all test results
- Address deficiencies and underlying imbalances
- Prioritize foundational health (sleep, nutrition, movement, stress management)
- Confirm suitability and safety for peptide therapy



CREATE & IMPLEMENT PROTOCOL

- Select appropriate peptide(s) and dosing
- Educate on administration, storage, potential side effects and what to expect
- Provide written plan and lifestyle recommendations
- Obtain informed consent



MONITOR, EVALUATE & ADJUST

- Scheduled follow-ups (typically every 4–12 weeks)
- Monitor symptoms, adherence, side effects
- Repeat labs / body composition as indicated
- Adjust protocol based on response and evolving goals



REMEMBER

Peptides are tools, not magic. The best results come from a holistic, patient-centered approach.



1. Consultation

Build the foundation before choosing any peptide.



WHAT THE CONSULTATION SHOULD COVER

- Age, height, weight, BMI
- Medical history
- Surgical history
- Current and past medications
- Weight history and fluctuations
- Allergies to medications
- Relevant family history
- Social history (smoking, alcohol, lifestyle)
- Psychological assessment



RED FLAGS

- Significant unmanaged mental-health issues
- Patients who may need psychiatric or psychological support first



WHY THIS MATTERS

- Wellness patients usually present with symptoms, not a single disease label
- The consultation helps uncover context, expectations, and suitability



CLINICAL PRINCIPLE

Good peptide prescribing starts with a good conversation.





2. Concerns & Goals

Clarify what the patient wants, what is realistic, and how committed they are to change.



KEY QUESTIONS TO ASK

- What bothers you most about your health and well-being?
- Besides the main concern, what other concerns do you have?
- What time frame are you expecting for improvement?
- How committed are you to lifestyle modification?
- Are you willing to improve diet, exercise, sleep, supplementation, and stress control?



WHY THIS STEP MATTERS

- It helps define the real clinical goal
- It sets realistic expectations
- It helps separate curiosity from commitment



COMMON THEMES

- Better body composition
- Recovery from injury
- More energy and resilience
- Better skin / healthy aging
- Libido and sexual wellness
- Focus, sleep, and stress support



CLINICAL PRINCIPLE

Do not match a peptide to a trend. Match the protocol to the patient's actual goal.





3. Peptide Options

Common concerns presented and examples of commonly considered peptide options.

COMMON CONCERNS / GOALS		COMMONLY CONSIDERED PEPTIDES (EXAMPLES)
	1. Body Fat Loss / Weight Management (Obesity)	GLP-1 receptor agonists (semaglutide, tirzepatide), retatrutide (when appropriate), AOD-9604, tesamorelin (selected cases)
	2. Body Recomposition / Lean & Fit	CJC-1295 + ipamorelin, MK-677, tesamorelin, MOTS-c, Amino-1MQ, epitalon
	3. Muscle Gain / Strength	IGF-1 LR3, CJC-1295 + ipamorelin, MK-677, Amino-1MQ, beta-alanine (adjunct)
	4. Recovery from Injury / Joint & Tissue Repair	BPC-157, TB-500, GHK-Cu, thymosin beta-4
	5. Skin Health / Anti-Aging / Glow	GHK-Cu, epitalon, BPC-157, polypeptide-121, melanotan II (as appropriate), collagen peptides (oral)
	6. Sexual Wellness / HSDD / Libido	PT-141, kisspeptin-10,bremelanotide, L-carnitine (adjunct), DHEA (if low)
	7. Low Energy / Fatigue / High-Stress Jobs	MOTS-c, NAD+ (or NMN/NR), BPC-157, rhodiola (adjunct), adaptogens (adjunct)
	8. Cognitive Focus / Brain Health	Semax, Selank, cerebrolysin, noopeptides, NAD+ (or NMN/NR)
	9. Gut Health / Inflammation	BPC-157, thymosin alpha-1, MOTS-c, GLP-2, lactoferrin (adjunct)



Peptide selection is individualized based on full assessment, goals, and clinical judgment. Lifestyle, nutrition, and sleep remain foundational.





4. Assessment

Objective assessment helps guide safe and effective protocol design.



A. PHYSICAL ASSESSMENT

- Body measurements (weight, BMI, waist / hip, neck, arms, thighs, etc.)
- Body composition analysis (InBody or DEXA when available): body fat %, lean mass, segmental muscle mass, segmental fat mass, visceral fat, total body water
- Standardized photographs (front, back, sides)



B. LABORATORY TESTING

1. GENERAL / BASELINE TESTS

- CBC, CMP
- Lipid profile
- Thyroid panel (TSH, Free T3, Free T4)
- HbA1c
- Magnesium, zinc
- CRP, ESR
- Urinalysis
- ECG (as indicated)

2. PEPTIDE-SPECIFIC / TARGETED TESTS

- Fasting glucose, fasting insulin, HOMA-IR (GLP-1s, metabolic)
- IGF-1 level (for IGF-1 LR3 or GH-axis peptides)
- Sex hormones: total & free testosterone, SHBG, E2, progesterone (as indicated)
- Cortisol (AM), DHEA-S
- Homocysteine
- Omega-3 index
- Specific peptide levels (when available)
- For fatigue / energy complaints: ferritin and iron studies, vitamin B12, folate, vitamin D



C. ADVANCED / OPTIONAL TESTS (AS INDICATED)

- Gut microbiome analysis
- Food sensitivity / intolerance testing
- Heavy metals
- Methylation (MTHFR)
- Oxidative stress markers
- Telomere length
- Epigenetic age
- VO₂ max / fitness testing



Not all tests are needed for every patient. Order based on clinical context and goals.





5. Review & Implement

Turn the assessment into a safe, practical, patient-specific plan.



REVIEW & OPTIMIZE

- Review all history, measurements, and test results
- Identify deficiencies and underlying imbalances
- Prioritize foundational health: sleep, nutrition, movement, stress management
- Confirm suitability and safety for peptide therapy
- Decide whether the patient needs a single peptide or a stack



CREATE & IMPLEMENT PROTOCOL

- Select the peptide(s), route, dose, and timing
- Explain expected benefits, realistic timeline, and limitations
- Educate on administration, storage, and potential side effects
- Provide a written lifestyle plan and supplementation advice
- Obtain informed consent and start treatment



CLINICAL PRINCIPLE

Correct deficiencies first, then build the peptide plan around the patient's real goal.





6. Monitor, Evaluate & Adjust

Peptide therapy should be reviewed like any other clinical intervention.



FOLLOW-UP FRAMEWORK

- Scheduled follow-ups, typically every 4–12 weeks
- Review symptoms, adherence, benefits, and side effects
- Repeat labs when indicated
- Repeat body measurements, photographs, or body composition when relevant
- Decide whether to continue, taper, stop, or change the protocol
- Adjust the plan based on response, goals, and evolving clinical context



WHAT TO TRACK

- Energy, sleep, appetite, recovery, libido, cognition
- Body weight, waist, body fat trend
- Blood markers and deficiency correction
- Tolerability and patient satisfaction



REMEMBER

Peptides are tools, not magic. The best results come from a holistic, patient-centered approach.



Case Study 1 — Woman in Her 30s With Obesity

A practical weight-management case focused on metabolic health, lifestyle change, muscle preservation, and realistic outcomes.



1



Patient Profile

- 34-year-old woman with obesity
- Progressive weight gain, central adiposity, low energy
- Sedentary work, cravings, inconsistent exercise
- Motivated to improve health and quality of life



2



Key Concerns

- Excess body weight and abdominal fat
- Hunger, poor satiety, and fatigue
- Fear of rebound weight regain
- Wants realistic, long-term change



3



Assessment



History: weight fluctuations, diet, activity, sleep, medications, menstrual history, pregnancy plans, psychosocial stress



Objective: BP, weight, waist circumference, body measurements, progress photographs, body composition / InBody



Baseline labs: CBC, renal and liver function, fasting glucose, HbA1c, fasting insulin ± HOMA-IR, lipid profile, TSH, vitamin D, vitamin B12

4



PROTOCOL DESIGN



Foundation first: calorie deficit, high-protein nutrition, resistance training, walking / zone 2 cardio, sleep routine



Correct deficiencies before or alongside treatment



Consider GLP-1-based therapy if appropriate



After treatment is well tolerated and the patient is metabolically more stable, tesamorelin may be considered in selected cases to further target visceral fat



AOD-9604 may be considered as an optional adjunct in selected body-composition protocols

5



Monitoring & Goals



Track appetite, side effects, bowel habits, adherence



Follow weight, waist, body composition, and lean mass preservation



Recheck key metabolic markers when appropriate



Goal: meaningful fat loss, better satiety, improved energy, better metabolic health



The goal is not just weight loss. It is better body composition, better metabolic health, and a plan the patient can sustain.

Case Study 2 — The Dad Bod Patient

A body-recomposition case focused on visceral fat, muscle preservation, recovery, lifestyle adherence, and sustainable long-term change.

1



Patient Profile

- 42-year-old man with central adiposity
- Mild visceral fat accumulation, reduced muscle definition
- Busy professional, irregular meals, inconsistent exercise
- Wants to feel fitter, look leaner, and regain confidence



2



Key Concerns

- Abdominal fat and 'dad bod' body composition
- Low recovery, low training consistency, energy dips
- Poor sleep and stress-related cravings
- Wants realistic change without extreme dieting



3



Assessment



History: weight trend, activity level, sleep, stress, alcohol intake, medications, previous dieting



Objective: BP, weight, waist circumference, body composition, strength baseline, energy, recovery status



Baseline labs: CBC, CMP, lipid panel, fasting glucose, insulin, HbA1c, TSH, vitamin D, testosterone (if clinically indicated)

4



PROTOCOL DESIGN

1. **Foundation first:** nutrition, resistance training, zone 2 cardio, sleep routine, and correction of deficiencies.
2. Start with restful/def first to improve hunger control, reduce cravings, and lower visceral fat.
3. After initial fat-loss control, transition into body recomposition support with CJC-1295 + ipamorelin.
4. Add NAD+ and MOTS-c for energy / mitochondrial support, alternating them through the week.
5. Once body composition improves and hunger is better controlled, gradually taper the retatutide dose.

5



Monitoring & Goals

1. Track appetite, cravings, sleep, energy, and training adherence.
2. Follow weight, waist circumference, body fat percentage, lean muscle mass, and progress photos.
3. Recheck fasting glucose, fasting insulin, HbA1c, and other metabolic markers when appropriate.
4. Cycle CJC-1295 + ipamorelin for 6 weeks on and 4 weeks off.
5. Cycle NAD+ and MOTS-c similarly: 6 weeks on and 4 weeks off.
6. **Goal:** reduce visceral fat, improve body composition, preserve or build lean mass, and create a sustainable routine.



The aim is to first control hunger and visceral fat, then build a more sustainable body-recomposition plan around muscle, recovery, and metabolic health.

Case Study 3 — High-Functioning Startup Founder

A high-stress performance case focused on fatigue, sleep disruption, cognitive demand, burnout risk, and sustainable longevity support.



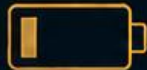
1. PATIENT PROFILE

- 39-year-old female founder
- Long work hours, frequent travel
- High cognitive demand
- Trains inconsistently
- Wants energy, focus and longevity support



2. KEY CONCERNS

- Persistent fatigue despite sleep effort
- Brain fog and reduced focus
- Fragmented sleep / waking unrefreshed
- Stress cravings and poor recovery
- Fear of burnout



3. ASSESSMENT

- **History:** sleep, stress, caffeine, alcohol, medications, menstrual / hormone history, travel rhythm
- **Objective:** BP, waist, body composition, photographs if body goals exist
- **Baseline labs:** CBC, CMP, fasting glucose, HbA1c, fasting insulin, lipid profile, thyroid, vitamin D, B12, ferritin, hs-CRP; consider cortisol / DHEA-S if clinically relevant



4. PROTOCOL DESIGN

1. Foundation first: sleep timing, protein, hydration, training, stress control
2. If low energy persists: consider NAD+ and MOTS-c cycling
3. If sleep and recovery remain poor: consider CJC-1295 + Ipamorelin in selected cases
4. For stress / focus framing: Selank or Semax may be discussed where appropriate
5. Avoid starting too many compounds together



5. MONITORING & GOALS

1. Track sleep, energy, mood, focus and training recovery
2. Review workload, travel and stress habits
3. Recheck labs when clinically indicated
4. Cycle protocols: commonly 6 weeks on, 4–6 weeks off depending on goals
5. Goal: better energy, clearer thinking, improved recovery and a sustainable rhythm



The aim is not to push harder forever. It is to build enough biological resilience to perform well without burning out.



Clinical note: Screen for depression, anxiety, anaemia, thyroid disease, sleep apnoea and other medical causes before framing this as a wellness case.



Grey Market vs Licensed Compounding



Why sourcing matters in peptide medicine



Grey Market Products



Often labelled "Research Use Only" or "Not for Human Consumption"



Usually cheaper



Often supplied as raw lyophilized powder



Requires reconstitution with bacteriostatic water



Small mixing errors can change concentration and dosing accuracy



Purity, sterility, endotoxin status, stability, and cold-chain history may be uncertain



Limited traceability and accountability

VS



Licensed Compounding Pharmacy



Dispensed only on prescription



Prepared in a regulated, sterile environment



Pharmacist-supervised formulation



Better control of identity, potency, and sterility



Batch traceability and accountability



Clear instructions for use and storage



Available as vials, pens, and selected sprays or serums where appropriate



Quality depends on the ingredient, formulation, testing, storage, and supply chain — not simply whether it comes in a vial or a pen.

What Premium Peptide Quality Looks Like



Before a peptide reaches a patient, these quality checkpoints matter.



1. Identity

Is it truly the stated peptide?



2. Potency

Does it contain the stated amount?



3. Purity

Are impurities and degradation products minimized?



4. Sterility

Is the injectable free from microbial contamination?



5. Endotoxin

Is it free from harmful bacterial toxins such as LPS?



6. Stability

Does it remain effective within its assigned shelf-life or beyond-use date?



7. Cold Chain

Have storage and transport temperatures been maintained?



8. Traceability

Can the batch, source, and documentation be tracked?



A certificate of analysis helps, but real quality also requires batch testing, documentation, and accountability.

Why Are So Many Peptides Still Unapproved?

A promising molecule still needs someone to fund the long journey from the laboratory to an approved medicine.



LAB DISCOVERY



STANDARDIZED
PRODUCT



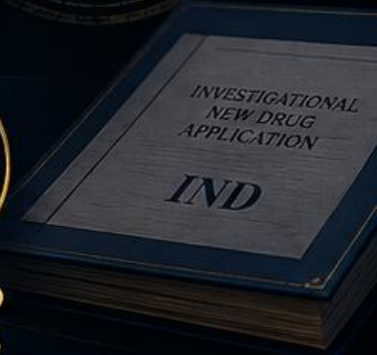
HUMAN
TRIALS



REGULATORY
REVIEW



APPROVED
MEDICINE



1. APPROVAL TAKES INVESTMENT

Manufacturing standards, human trials, safety data and review all cost time and money.



2. PATENT PROTECTION MATTERS

If a molecule is difficult to protect commercially, companies may not see enough return to fund large trials.



3. SOMETIMES THE SCIENCE IS INCOMPLETE

Human data, dosing, long-term safety or manufacturing quality may still be unclear.



4. DEMAND MOVES ANYWAY

Patients may turn to compounded, grey-market or black-market products when regulated access is limited.



*Unapproved does not automatically mean ineffective.
It means the evidence and regulatory review are incomplete.*

Where I Stand

I'm not asking you to agree with me.

I'm simply asking you not to dismiss this field before you have looked at it properly.

Peptides are not a miracle.

They are an adjunctive treatment.

And like everything in medicine, what really matters is:



Who is prescribing them?



Why are they being used?



Where are they coming from?



How carefully is the patient being selected and monitored?



That is where I stand.

We do not have all the answers yet.

But I also do not think this is something we can afford to ignore.



Welcome to the New Era of Peptides

Thank you for your attention.

• Dr. Hardik Ganatra •



Selected References



1. Foundational Material

- William Seeds, MD — Peptide Protocols / certification materials



2. Key Peptides & Topics

- Tesamorelin — published clinical studies in HIV-associated visceral fat reduction
- BPC-157 — systematic reviews and orthopaedic / sports medicine literature
- Thymosin Alpha-1 — clinical reviews and immunomodulation literature
- Selank & Semax — neuropeptide, cognition, and stress-modulation literature
- IGF-1 / IGF-1 LR3 — endocrine and anabolic signaling literature
- GLP-1 analogs / Tirzepatide / Retatrutide — obesity and metabolic trial literature
- GHK-Cu, MOTS-c, Epitalon — regenerative, mitochondrial, and longevity literature



3. Regulatory & Practice Reading

- FDA prescribing / labeling resources for approved agents
- Compounding, sourcing, and safety guidance



Selected reading list — not exhaustive.