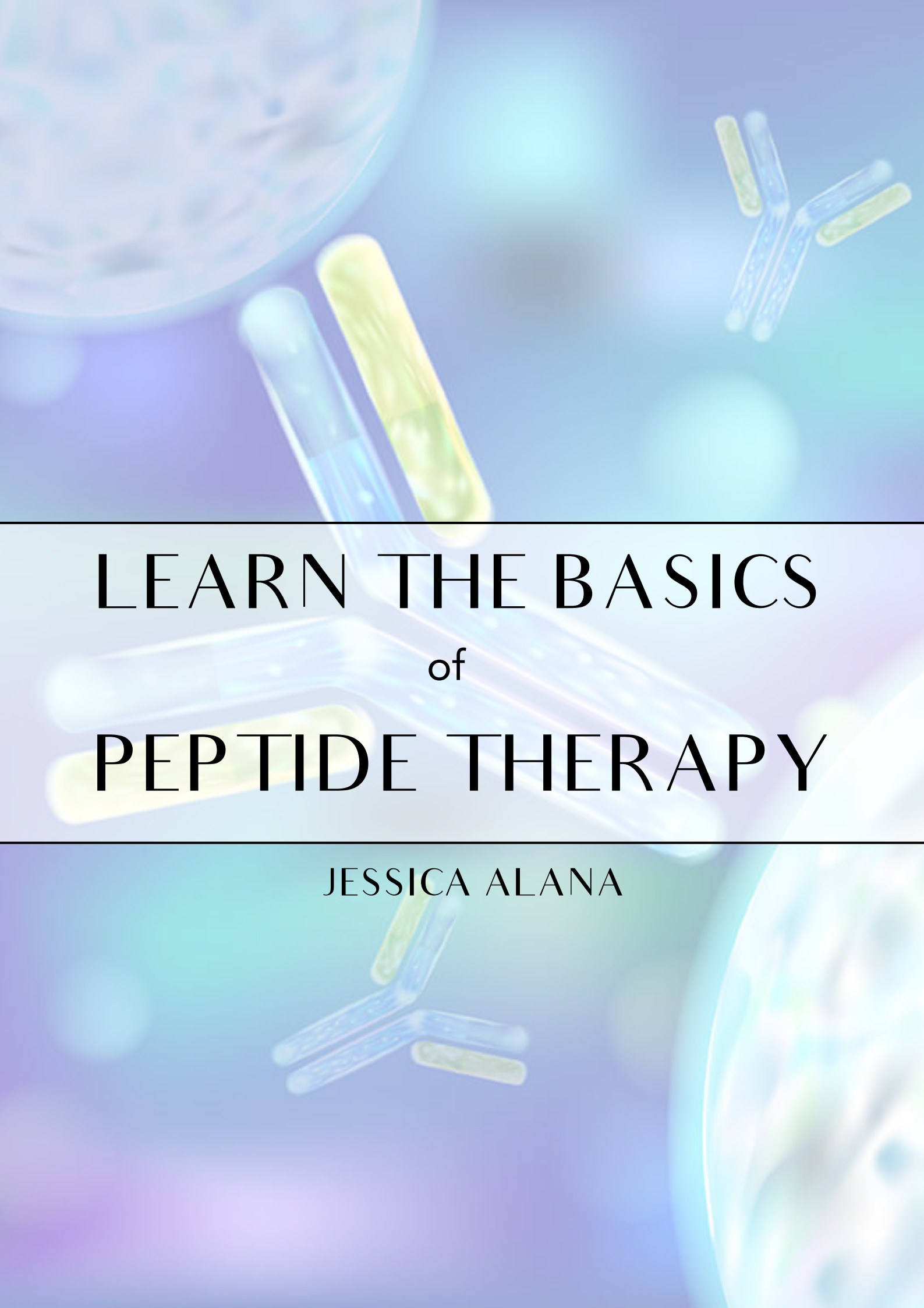


LEARN THE BASICS of PEPTIDE THERAPY

JESSICA ALANA

CHAPTERS

CHAPTER ONE

INTRODUCTION TO PEPTIDES

Essentially, a peptide is a biologically occurring chemical compound containing two or more amino acids connected to one another by peptide bonds.

Peptides are considered to be the building blocks of proteins.

In fact, each of us naturally produces peptides as part of our normal bodily function, AKA homeostasis.

Peptides are an essential part of nature and biochemistry, and thousands of peptides occur naturally in the human body and in animals.

However, as we age and are exposed to different environmental stressors, the natural production of these peptides decreases.

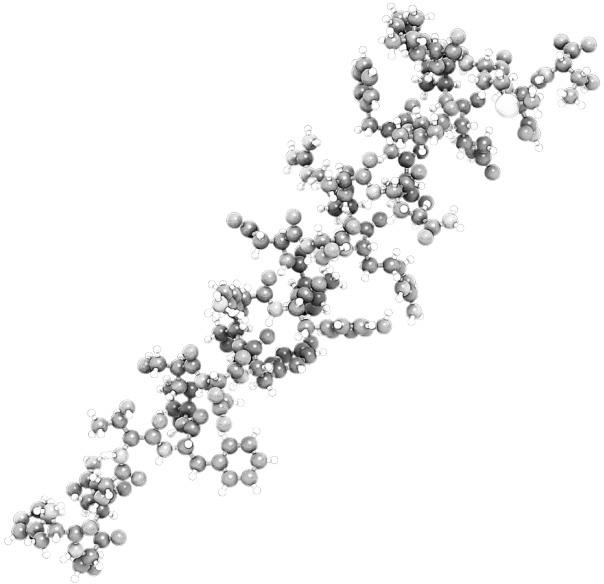
As a result, our cellular processes become increasingly inefficient.

Peptides work by mimicking our natural cellular behaviour by regulating specific cellular functions and facilitating an innumerable amount of biochemical processes in the body.

When you undergo Peptide Therapy, you are fundamentally using specific bioactive peptides designed to instruct your cell to perform a particular action, such as:

- Regulating blood sugar (think insulin).
- Improve response to infection.
- Reducing systemic inflammation.
- Increase growth hormone output.

And more.



CHAPTER ONE

INTRODUCTION TO PEPTIDES

There are over 800 peptide drugs in the clinical pipeline, and 197 are commercially available.

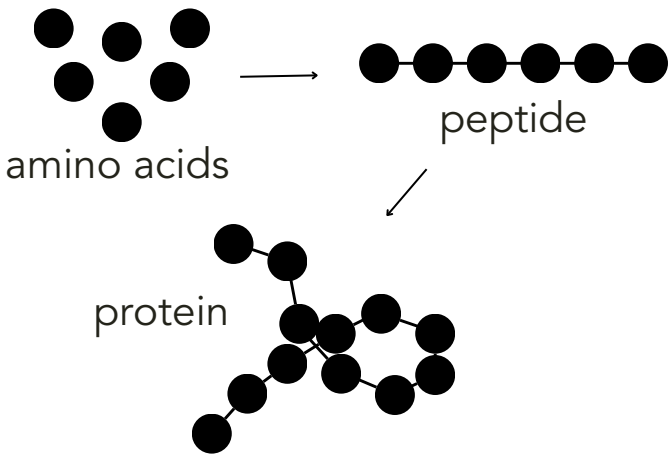
Believe it or not, peptides have been actively used in medicine for the past 100 years.

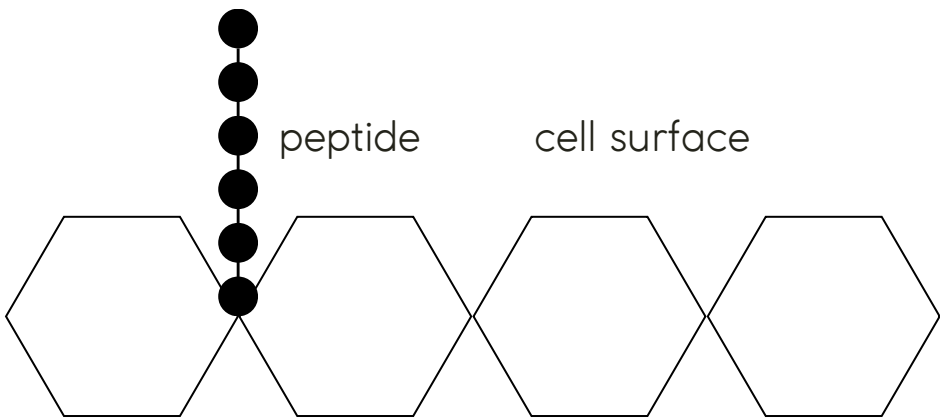
The discovery of insulin in the 1920s can be considered a milestone in Peptide Therapy.

This discovery laid the groundwork for understanding how peptides could be used to treat diseases.

By the 1970s, advances in technology and biochemistry led to a deeper understanding of peptides' role in the body.

This period saw the synthesis of various peptides and the identification of their functions within biological systems.





CHAPTER ONE

INTRODUCTION TO PEPTIDES

Recent years have seen an exponential growth in peptide-based drug development.

The peptide industry is currently worth USD 43.45 billion and has an annual growth rate (CAGR) of 6.1% from 2024 to 2030.

The main advantages of Peptide Therapy are:

1) Highly Specific and Targeted Treatment Plans:

- Due to their precise structure and function, peptides can be designed to interact with specific receptors or cellular pathways, allowing for tailored therapies that address particular health concerns without affecting unrelated bodily systems.

2) Ultimate Efficacy and Bioavailability:

- Peptides often exhibit higher efficacy and bioavailability compared to traditional supplements due to their specific and targeted mechanisms of action.

3) Low-Risk, High-Reward Nature:

- The majority of peptides used exhibit a favourable risk-to-reward ratio.
- Peptides tend to have low toxicity, short half-life and minimal side effects when administered properly.

4) High Biological Compatibility:

- Peptides are derived from naturally occurring substances within the body or are synthesised to mimic natural sequences.
- This inherent biological compatibility often results in better acceptance by the body, reducing the likelihood of adverse reactions or immune responses.

INTRODUCTION TO PEPTIDES

5)) Specific Peptides for Various Ailments:

- Peptide Therapy encompasses a wide range of peptides, each with its own specific functions and potential therapeutic applications.
- Researchers have identified and developed peptides tailored for addressing diverse health conditions, ranging from chronic diseases to aesthetic concerns.
- This versatility allows for the development of targeted treatments designed to address specific ailments effectively.

And this final point leads us brilliantly into Chapter 2: Peptides vs Your Goals.

CHAPTER TWO

PEPTIDES VS YOUR GOALS

As previously noted, over 800 peptide drugs are in the clinical pipeline, and 197 are commercially available.

All of which I can't discuss here.

However, what you'll find below is a brief overview of what I believe to be the top 22 peptides and their general use cases.

These are the peptides that I see work tremendously well in my clients.

BPC-157:

- Heals wounds and injuries in muscles, tendons, ligaments, bone, and skin.
- Powerful anti-inflammatory response.
- Protects and seals the gut lining.
- Stimulates different mechanisms of cellular repair.

GHK-Cu:

- Rejuvenates skin and reverses hair loss.
- Increases collagen production and restores the structural integrity of damaged tissues.
- Suppresses chronic inflammation.
- Repaires damaged DNA.
- Pain reduction.

Thymosin Beta-4 (TB-500):

- Upregulating a protein called 'actin' that promotes the restoration and maintenance of a cell's structure.
- Boosts immunity.
- Repairs damage to the heart, skin, tissue, ligaments, and other organs.
- Possesses anti-inflammatory and pain properties.

KPV:

- Inhibits NF-kB and inflammatory MAPK signalling cascades.
- Reduces inflammatory cytokines.
- Antimicrobial properties.
- Improves gut health.
- Can be used topically for skin conditions.

CHAPTER TWO

PEPTIDES VS YOUR GOALS

Ipamorelin:

- Growth hormone-releasing hormone (GHRH).
- Reduces body fat composition.
- Improves bone health and decreases joint and muscle pain.
- Enhances workout recovery.
- Low risk compared to other exogenous growth hormones.

5-Amino 1MQ:

- Slows down the metabolism of fat cells.
- Improves neuromuscular function.
- Increases the ability to maximally contract muscle fibres.
- Reduces muscle soreness.
- Lowers cellular senescence.

Testofensine:

- Increases basal metabolic rate.
- Reduces physical hunger and mental cravings.
- Lowers levels of risk-associated biomarkers such as 'bad' cholesterol.
- Increases BDNF production.

MOTS-C:

- Naturally occurring and produced by the mitochondria in your cells.
- Improves insulin sensitivity, increases fat breakdown and boosts energy levels.
- Enhances mitochondrial communication.

Semaglutide:

- Excellent at reducing body fat.
- Directly addresses the negative behaviour of overeating via appetite suppression.
- Increases insulin.
- Anti-addiction across the board.

LL-37:

- Works by binding to the pathogen's cellular membrane and causing pathogen cell death.
- Anti-bacterial.
- Anti-fungal.
- Anti-viral.

CHAPTER TWO

PEPTIDES VS YOUR GOALS

Thymosin-Alpha 1:

- Strengthens the immune system and lowers the risk of infection,
- Signals T-cells to be released from the thymus gland.
- Powerful immunomodulator.
- Regulates autoimmunity.

VIP:

- Reduces high blood pressure and improves oxygenation.
- Aids in innate and adaptive immunity
- Key in overcoming Mold Illness.
- Aids the respiratory system.
- Neuroregulatory peptide.

Selank:

- Reduces anxiety.
- Increases BDNF production.
- Lowers production of pro-inflammatory compounds in the brain.
- Regulates the expression of dopamine and serotonin.
- Provides a boost in learning speed and memory (both long and short-term).

Epitalon:

- Increases production of telomerase.
- Protects the essential telomeres of our DNA.
- Lowers biological age.
- Decreases mortality rates.
- Increases lifespan.

Thymalin:

- Promotes T-cell differentiation and enhancement of T and NK cell actions.
- Life-extending and immunity-boosting.
- Keeps the immune system fully functioning.

PE-22-28:

- Exclusive focus on mood regulation.
- Anti-depressant.
- Lowers the incidence of maladaptive depressive behaviours, especially in chronically elevated stress.

CHAPTER TWO

PEPTIDES VS YOUR GOALS

Semax:

- Restores function to the central nervous system.
- Significantly improves memory and attention, even under extreme stress.
- Increases learning capacity and verbal fluency through increased BDNF production.
- Neurorestorative and neuroprotective.

Cerebrolysin:

- Effective treatment for traumatic brain injury.
- Enhanced cognitive control in dementia patients.
- Promising treatment for Alzheimer's disease.
- Improved mental function in children with autism.

SS-31:

- Reverses cognitive dysfunction.
- Longevity bioregulator.
- Protects against oxidative stress.
- Restores mitochondrial dysfunction.
- Promising for treatment of Type 2 Diabetes.

Kisspeptin-10:

- Improves testosterone, and female hormones.
- Addresses fertility issues.
- Linked to metabolic health.
- Anti-cancer properties.

PT-141:

- Enhances sexual performance.
- Optimises libido and decreases erectile dysfunction.
- Allows for greater pleasure during intimacy.

CJC-1295:

- Accelerate your body's ability to heal wounds and injuries.
- Increased energy levels.
- Lower inflammation.
- Restores insulin sensitivity.
- Improves bone density and muscle mass.

CHAPTER THREE

SOURCING YOUR PEPTIDES

Peptides are versatile, regenerative and essential to an optimised life.

But this doesn't mean they're easy to use or source.

90% of all peptides come from China, are not pure, are contaminated with heavy metals, or are inherently lousy products.

Selecting a reputable source for peptides becomes paramount, as it guarantees purity, quality, and adherence to strict manufacturing standards, ensuring that the peptides obtained are safe and potent for their intended use in promoting health and well-being.

For this reason alone, I only recommend two sources of peptides, which are sister companies.

Limitless Life Nootropics for USA, UK and rest of the world.

DN Lab Research for the Middle East, such as Dubai and some parts of Europe where imports are stricter.

I know the CEOS and team exceptionally well, and both are doing outstanding ventures in which I couldn't be happier to be involved.

CHAPTER FOUR

TOP 10 PEPTIDE MISTAKES

1) Buying From a Non-Reputable Company:

As peptides become more and more restricted, gone are the days when you could source your peptides from a doctor's prescription and a compound pharmacy.

Therefore, vetting the company you purchase your peptides from is incredibly important.

Many companies manufacture their peptides in non-sterile and unsafe environments.

2) Purchasing Peptides Without Purchasing Reconstitution Water:

Your peptide will come as a powder.

This means you must add bacteriostatic or sterile water to your peptide powder to make the peptide viable to inject.

So, you'll have to purchase small vials of reconstitution water alongside your peptides.

You can normally purchase the water from your peptide vendor; if not, any pharmacy or online store will stock reconstitution water.

3) Not Purchasing The Correct Needles and Syringes:

You will need two needles of different sizes (20G and 30G) plus a 1ml syringe.

The 30G (smaller needle, like an insulin syringe) is used to inject.

Whilst the 20G (the size of an IV needle) is used to reconstitute with the sterile water.

CHAPTER FOUR

TOP 10 PEPTIDE MISTAKES

4) Not Understanding How To Reconstitute:

A common mistake among peptide users is needing to understand how to reconstitute.

The first hurdle when using peptides is learning how to withdraw bacteriostatic water and inject it into the peptide vial without damaging it.

A straightforward process once understood.

5) Starting Peptides Without Understanding Correct Injection Procedure:

Don't be scared of the peptide needle; it is tiny!

Nevertheless, you must understand how to inject your peptide into the subcutaneous area.

I prefer the glute area.

You can find many videos online that show you how to inject peptides safely.

6) How To Understand Peptide Dosing:

Peptides work in micrograms (mcg), whereas everything else you've probably used in your life is a milligram (mg).

This can be a confusing conundrum! Especially when attempting to understand how to dose and inject your peptide properly.

Many of the vials come in sizes such as 5mg, 10mg and 2mg.

You can use a Peptide Calculator to work out your dose or reach out to book a consultation.

CHAPTER FOUR

TOP 10 PEPTIDE MISTAKES

7) The Role of Exercise and Nutrition:

Peptides are not a magic bullet.

If you're walking around like an inflamed garbage box and think peptides will miraculously change your life, then I have news for you!

Peptides will do very little for you at all if you haven't already succeeded in the basics.

8) Setting The Correct Expectations:

Once you have identified your specific reason or goal that correlates to your peptide, then you want to map out your treatment plan and expectations.

You'll need to create a protocol that works for you based on questions like is your condition acute (short term) or sustained (chronic)?

What is your game plan?

9) Not Being Hormonally Optimised:

Obviously, you need to be, to some extent, hormonally optimised when starting Peptide Therapy.

The peptides will, of course, act in greater synergy with a body that has balanced hormones.

Your body works as a symphony orchestra.

Peptides merely come in to fine-tune this arrangement.

CHAPTER FOUR

TOP 10 PEPTIDE MISTAKES

10) Understanding The Different Peptide Delivery Mechanisms:

Sure, a few select groups of peptides can be administered orally and intra-nasally.

But I'm sorry to break it to you; for the majority of peptides, you will have to inject.

It's crucial to understand that not all administration methods yield the same results regarding peptides.

Many peptides have poor oral and intra-nasal absorption, significantly reducing their effectiveness.

Subcutaneous injection is almost all peptides' most impactful delivery system, maximizing their efficacy and ensuring a more potent effect than other administration routes.

CHAPTER FIVE

WHAT TO DO NEXT

Okay, now you understand what peptides are, which ones match your goal, where to source peptides and the top 10 peptide mistakes.

You have the toolbox to go out and start your first-ever Peptide Therapy plan!

For a general shopping list, you will need:

1. The peptide of your choice.
2. 20G needles to reconstitute.
3. 30G needles to inject.
4. Bacteriostatic/sterile water.
5. Alcohol swabs.
6. 1ml syringes.

Should you require further assistance or guidance along the way, feel free to contact me.

I'm here to provide additional support and answer any questions you might have.

Your successful Peptide Therapy journey starts now - embrace it confidently and enjoy the benefits of this innovative approach to health and wellness!

For more information and a deep-dive about each peptide, you can go to my Library section on my website.