PEPTIDES DEMYSTIFIED

How to Use Peptides For The First Time and Forever

with Hunter Williams and Jay Campbell

JAY CAMPBELL

GET FULLY OPTIMIZED

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Module 1 - Welcome and Intro

1.1 - Welcome From Jay

- Today is about demonstrating the use of peptides and discussing things many people are clueless about when they start using peptides.
- A LOT of bro science out there, but there's definitely good stuff out there.
- Nothing but the authentic transparent truth will be presented here. Hunter and Jay may not be licensed medical professionals but they have combined decades of real-world experience with using peptides effectively and safely.
- Some of the nitty-gritty questions we'll address in Episode 1:
    - How do you use peptides?
    - How do you reconstitute with bacteriostatic water?
    - How do you use an insulin syringe?
    - What is the difference between a withdrawing syringe and an actual insulin syringe that you use to inject yourself?

1.2 - Purpose Of This Course

- Peptides are absolutely transformational to people's health, and there's a lot of people who are hurting on the planet right now.
- We want to make everyone who uses peptides are extremely comfortable and confident with doing so.
- If you registered in advance for this webinar, you will get access to the replay video.

Module 2 - Overview of Peptides

2.1 - Why Peptides Are Not A Magic Bullet

- Peptides work best when you're hormonally optimized. An unhealthy person WILL NOT get the same results as Hunter and Jay, who are.
- Peptides will optimize your biological systems in the same way your thyroid is optimized from using desiccated thyroid, or your pancreas is optimized from using Metformin.
- Ask yourself: "Am I hormonally optimized BEFORE using peptides?" Jay always asks this question in all of his emails and podcasts, including his most recent episode on Mind Pump. Watch as it's the best podcast done on the subject of peptides.

- If your toes are about to be cut off because you've been living like a human dumpster fire for 50 years, there's no peptide that you can take that is going to save your toes.
- You have to live the fully optimized lifestyle: Insulin controlled living, a combination of weight training and cardiovascular training, and of course getting enough sleep.
- Peptides are meant to restore cellular health. And in order to do that, they work better if you're going from 80% to 100% than they are if you're going from 20% to try to get to 100%. Therefore, peptides are going to work best when you are doing everything else in your life properly.
- Peptides heal amazingly, they are the frontier of modern health and modern medicine, but you will not maximally benefit from them without a healthy lifestyle.
    - Example: Celebrity doctors are bashing GLP-1 agonists as muscle-wasting drugs that cause you to gain all the weight back. You cannot use them alone and look like a fitness model in six months unless you are changing your health habits at the same time.
- Before using peptides, you absolutely 100% need to get your blood work done to understand what your blood work looks like and where you may be deficient or be experiencing problems.
    - You don't need to go to your doctor to get your blood work done. It's why I created three separate labs with PrivateMDLabs.com/jayc (use code JayC for 15% off your order). Regardless of your financial level, there's one of those independent labs that you can take that will measure your biomarkers to figure out if you have that hormonal deficiency.
- Hormonal optimization builds the mansion and sets the foundation. Peptides are the furniture, the paintings, all the final touches.
- Right now in the healthcare sector, for people that use telemedicine providers, every major body - the government, the FDA, all the alphabet agencies, big pharma – are cracking down on peptides.
- Fullyoptimizedhealth.com is $99 a month, $249 quarterly. In that group is where Jay answers questions on a regular basis. He also interviews leading doctors and subject matter experts, and answers members' questions. If you're serious about taking your health optimization to the next level, you want to join that group after you get your lab done.

2.2 - Why You Have To Inject Peptides

- Injecting peptides is the most efficient delivery system. You can't ensure peptide bioavailability and/or efficacy without them crossing the blood-brain barrier as efficiently as possible.
- Injectable peptides will ALWAYS outperform peptides delivered orally, intranasally, and through other alternative delivery systems.
- You will be using a 31-32 gauge insulin needle (1 mL). A very small hypodermic needle. You will NOT feel any pain when you inject for the first time, and even if you do, you won't feel pain the second time.
    - You will only fear the fear of injections (needle phobia, a.k.a. trypanophobia) the first time. After that it's nothing more than a mosquito bite.

2.3 - Understanding Research Chemical Companies Vs Compounding Pharmacies

- For context, Jay has been using peptides since 2004 when nobody knew what they were. Very few people can claim this level of direct experience. Hunter himself has 7 years of successful peptide use.
- The research chemical company we promote is Limitless Life Nootropics, which you can access at LimitlessLifeNootropics.com/jayc (JAY15 for 15% off your order).
- Chris Mercer, owner of Limitless Life Nootropics, does certificates of authenticity on every single peptide.
- We will be forming another company called Limitless Longevity, which will be one of the largest life extension supplement companies on the planet. We will hopefully be able to offer peptide bioregulators in addition to standard therapeutic peptides.
- It is very possible Big Pharma will stop compounding pharmacies from making peptides in the first place. They are hunting down compounders who sell adulterated peptide products that aren't even retail pharmaceutical brands.
    - Many compounders are making their own versions of Mounjaro (Tirzepatide) and Ozempic (Semaglutide) by diluting them, adding an acetyl group, or adding in different ingredients such as Vitamin B6 to avoid patent infringement. Since they supply in bulk, they can sell these formulations for much cheaper than the price of a brand-name pharmaceutical.
    - Big Pharma doesn't like this and Jay has higher-up sources in the pharmaceutical industry saying the powers that be will not allow this to happen anymore. Thus, doctors who use these compounding pharmacies will not be able to write you off-label prescriptions for these peptides (which they're legally entitled to do).
- Optimize Your Health With Therapeutic Peptides - #1 book on Amazon in Men's Health, and a Top 5 book in eight other categories.
- Peptide Bioregulators
    - There are approaches to helping people who have been injured, suffer from autoimmune dysregulation, or fixing other major health problems.
    - Jay just did a bombshell podcast with Phil Micans about this group of compounds, and many more articles forthcoming on the Jay Campbell website will examine each of these bioregulators in far greater depth.
    - Arguably, they may be an even bigger frontier than traditional peptides.
    - ALL of them work orally and come in capsules.
- Compounding pharmacies are regulated by the medical industry, research chemical companies are not. The latter have several legal disclaimers that say you indemnify them as a seller because you agree to understand these chemicals are for laboratory research purposes only (not for human consumption)
    - This prevents someone from hurting themselves with these compounds and then suing the seller.
    - Please do not fear, because none of these research chemical companies, including Limitless Life Nootropics and several others, are promoting peptides that harm people.

- Peptides as a whole are extremely safe. You can obviously overdose them but you will not die from doing so.
- Peptides play numerous roles: Fat loss, muscle gain, cognition improvement, energy-boosting, telomere length extension, etc.
    - Monica, Jay's wife, has transformed her physique using peptides such as Tesofensine and Ipamorelin for the past 11 years.
- Limitless Life Nootropics is Jay's #1 recommendation because they use an independent 3rd party lab analysis company to verify label claims of ingredients and purity of the active ingredient.
    - Chris does not allow any peptide with less than 99.5% purity to be made available to the public.
    - Even if you do not use Limitless, ALWAYS check to ensure your research chemical company provides a COA (Certificate of Analysis) for each and every peptide they offer.
    - You theoretically will be ok with injecting a peptide that is 75-80% pure, but don't expect the same level of potency and efficacy as a >99% pure peptide.
- Due to everything we've mentioned, peptides will effectively stay in the "grey market" zone. Which means you will have to take your health into your own hands, similar to how people self-taught themselves the ins and outs of Bitcoin during the big cryptocurrency boom.
- So much like Bitcoin, peptides are the "decentralized and crowdsourced" compounds of medicine.
- It will take you a bit more brainpower to correctly locate and use these peptides, but it is not rocket science.
- Limitless Life Nootropics' prices may seem cheap, but remember you will pay 3-5x more if you get a compounded version of the peptide from a physician's prescription.

2.4 - Understanding Compounders

- The future of peptides
    - There's a lot of inner circle talk about peptides going away because Big Pharma does NOT want compounders selling adulterated versions of their products.
    - In fact, cease and desist letters have already been sent for pharmacies producing Semaglutide and Tirzepatide. Which means the only way to get them is to fork up $1000 a month (versus the $300-600 a month you'd paid at the compounders). But with Limitless Life Nootropics, you would pay $140-150 a month.
    - So for the foreseeable future, assume that research chemical companies are the only place you will be able to get peptides.

Module 3 - Reconstituting And Prepping Your Peptides

3.1 - Reconstituting A Peptide Live

- Supplies you need for a peptide reconstitution/injection: Bacteriostatic water, sanitary alcohol wipes, 1 mL insulin syringes, the raw peptide within its vial.
- A research chemical company will NOT give you the supplies above, nor will they give you reconstitution instructions.
- This is a self-directed learning experience that can be made easier with my free articles on the Jay Campbell website and the $10-20 Amazon book depending on if you get the paperback version or the Kindle version.
- Limitless Life Nootropics' bacteriostatic water is called "Reconstitution Solution"
- If you have a 21-gauge syringe, you want to reconstitute with that and NOT the 31-32 gauge insulin syringe you are going to inject yourself with. Why? This stops us from dulling the needle tip. You don't want to put the needle into the vial of the reconstitution solution, putting the solution into your peptide vial, and then using the same needle to inject yourself.
- With an alcohol wipe, you want to wipe the top of the peptide vial (keep things sanitary).
- NOTE: There is a place called Syringe Needle Depot where you can get all the ancillary materials for peptide reconstitution shipped to your state. Worse case scenario, have a friend in a state that will accept these products so they can re-ship the materials to you.
- You also want to wipe the top of the bacteriostatic water bottle with a NEW alcohol pad.
- You can use a 3 mL syringe as your withdrawing syringe instead of a 1 mL insulin syringe to get all the water you need out of the bacteriostatic water container without needing multiple extractions (often you'll need 2-3 mL to reconstitute).

3.2 - How Much Bacteriostatic Water To Use

- IMPORTANT: You cannot inject bacteriostatic water DIRECTLY into the peptide vial. The peptide in the vial is a fractionated protein. A direct injection will destabilize the active ingredient.
    - Most peptides come in lyophilized form, meaning they are freeze-dried to make them more stable for a longer period of time.
- US made vs. China made: Really not much of a difference. US made means it was manufactured in the USA and follows American sterility processing controls (therefore there may be a premium markup that makes the peptide more expensive). China made was created and bottle in China and then shipped to the US. Either way we are still dealing with the same raw material ingredient(s).

- 45:00 – WATCH how Hunter pulls the bacteriostatic water out of the container with his 3mL syringe. Notice how he turns and pulls out, keeping pressure on the bottom of the vial. If he lets go, the water will shoot up back into the vial.
- 46:00 – WATCH how Hunter puts 2 mL of bacteriostatic water in his 3 mL syringe into the vial containing 5 mg of BPC-157. Be delicate to avoid defragging the peptide. Make sure the water goes DOWN THE SIDE of the vial, and not directly into the powder on the bottom. Go nice and slow, do not rush this.
- 47:30 – WATCH how Hunter dissolves the peptide in the vial that now contains bacteriostatic water. Just turn and invert it a few times slowly. DO NOT shake the vial up and down vigorously. You must do this gently. Once that's done, let the vial sit for a few minutes.
- SHARPS container: Specialized container for storing used needles. If you don't have one, use a puncture-proof container such as the one used to store Tide Pods. DO NOT throw away your needles directly in the trash.

Module 4 - Injection

4.1 - How To Inject Properly Live Demo

- You are injecting in the mid-section area right around the belly button if you are doing this subcutaneously.
- 1:18:30 is when Hunter's live demonstration starts. He uses 10 units. Notice how the vial containing the reconstituted peptide is upside down and how Hunter extracts from the vial held upside down.
    - As he is leaner, he has to angle down a bit to grab enough belly fat for an injection.
    - Hunter has to pull out his belly fat, and slide the needle in at a ~45 degree angle. You DO NOT stab directly into the fat (if you're fatter, you would point the needle directly down into the pinched fat)
    - Take the plunger and slowly push it down. Keep the finger down on the plunger, pull it out and you're good.
    - You will very rarely see blood. You can use a new alcohol pad to wipe off the site of injection if you want to.
- You can also inject intramuscularly (shallow IM): Back of the deltoid muscle, or the tricep, or the quadricep.
    - Whether subcutaneous (subQ) or intramuscular injections are better gets debated endlessly and forever. The "bros" will say injecting intramuscular is better than subcutaneously because you will hit androgen receptors, and there's better blood flow in muscles than fat tissues.
    - But for long-term usage, there is not much of a difference UNLESS you are injecting oil-based anabolic steroids, in which case an intramuscular injection does create a mild hypertrophic effect.
    - If you're a young guy who wants bigger arms, peptides won't do shit. But if you are using therapeutic testosterone, over time you will get size if you are training and eating right (this is called site injection growth).

- So should you do subQ or shallow IM?
    - SubQ injection areas are upper butt glute, belly button area, the quads. IM injection areas will be the upper deltoid region of the arm and the outer quads (same injection procedure, pinch the skin)
- How often to inject yourself?
    - Depends on the peptides you're using and the condition you are treating, but you can inject up to three times a day without problems.
- Can you put all your injected peptides in the same syringe?
    - No. Inject them individually.
- You will not have a thrombotic embolism from injections with an insulin syringe if you have a little bit of an air bubble/pocket. For that to happen, you'd have to inject a giant withdrawing needle of 3 CCs of pure air into a vein or capillary that has severe blood flow. You can flick the needle lightly to get the air bubbles out.
- If you are injecting the needle directly and not from the side like you're supposed to, you may experience welts/bruises. Some people get a mild rash from injecting in the belly area called cellulitis, but it usually self-corrects. Can also happen in super-lean people who have virtually no fat tissue to inject into. The body will get used to it.
    - For SOME people, GHK-Cu injections will burn like living hell. That's why Jay always recommends to use the peptide as a topical/transdermal formulation.

Module 5 - Proper Storage and Traveling

5.1 - Storage and Traveling With Peptides

- Why you MUST refrigerate peptides
    - The reconstitution solution maintains and extends the shelf life of the peptide, on top of what the lyophilized peptide already does for the stability of the peptide (hence why you pay more for lyophilized peptides vs. raw peptides).
    - Limitless Life Nootropics is transitioning to having 100% of their peptides lyophilized.
- What is the difference between the original version of certain peptides and their N-Acetyl versions?
    - The N-Acetyl is a modification that is made to either extend a peptide's half-life or enhance its efficacy. The same deal with the Amidate modifications, which you will see commonly with Semax and Selank.
    - However, in practical terms, the results are not extremely different from one another. You're paying for something that lasts longer in the bloodstream.

Module 6 - The GLP 1 Agonists/Weight Loss Peptides

6.1 - Tirzepatide and Semaglutide

- Tirzepatide is a double receptor agonist for GLP-1 (glucagon-like peptide 1) and GIP (glucose-dependent insulinotropic polypeptide)
    - It will suppress your appetite unlike any other peptide or supplement in existence.
    - If you live the fully optimized lifestyle, Tirzepatide makes fasting way easier. For even longer fasts (36-48 hours), it will no longer be a challenge
- No real side effects, although Semaglutide makes some people nauseous
- Tirzepatide is projected to do $50 billion in sales within the next year. The BEST-SELLING pharmaceutical drug in the industry's entire history, surpassing statins and even the "jabs".
- Semaglutide is a single receptor agonist for GLP-1, not as good as Tirzepatide but still works well to suppress appetite.
- Truly, the main problem with these two peptides is know-nothing doctors like Dr. Peter Attia who spread misinformation about them and their "muscle-wasting" properties
    - Obesity doctors will prescribe these peptides to their patients without teaching them the basics of fat loss. The patients use them, their appetite dulls and they stop eating. Obese and metabolically dysfunctional people will lose dramatic amounts of weight.
    - At first they get the results they want. Weight goes down, pant sizes drop, and they aren't so hungry anymore.
    - But in failing to follow optimal lifestyle habits, they pay a price: They destroy their metabolism and decimate their thyroid function, leading to fat loss AND muscle loss. Combined with not doing any resistance training and cardiovascular training, and not eating enough protein, it's a predictable recipe for disaster. They eventually gain all of the weight back and then some once they stop using Semaglutide/Tirzepatide.
    - Similar to the crash diets of the 1980s and 1990s, where Fen-Phen and other drugs were the craze. People would stop eating altogether and then rebound so hard they are heavier than when they started dieting.
- On determining your protein intake:
    - You need to eat one gram of protein consumed per pound of LEAN body weight.
    - It means if you weigh 400 pounds, you can't eat 400 grams of protein per day. You'll stall your weight loss due to gluconeogenesis (creating glucose from the protein you eat).
    - Let's say you are 35-35% body fat at 400 pounds, and you determine how much skeletal muscle weight you have, you'll likely be eating 200-200 grams of protein in a day.
    - This is on top of weight training, cardio training, proper sleep, eating at a caloric deficit, and so on.

- Lottery analogy:
    - Many lottery winners end up bankrupt because they never had the tools, knowledge and emotional maturity needed to handle large sums of money. They buy cars and fancy toys, eventually owing lots of money on taxes.
    - Tirzepatide is the equivalent of a lottery ticket for weight loss that is mis-used properly by patients and doctors alike.
- 30 Dayz To Shredz
    - This book will detail exactly how to use Tirzepatide PROPERLY for extreme fat loss, as it was a main driver of results for our beta testers. We have Bod Pod scans and DEXA scans proving nobody lost muscle after using Tirzepatide.
    - Hunter maintained some muscle and possibly gained muscle while on Tirzepatide. But only because he did everything else right.
- Dieting is associated with suffering
    - In the last 50-60 years, people in the US have had negative perceptions with dieting. They have to restrict and restrain themselves, feeling like they are missing out on life.
    - Tirzepatide eliminates this suffering because it reduces the cravings, and anecdotally it helped Hunter reduce emotional attachment around junk food.
- Ultimately, the people who have issues with Semaglutide/Tirzepatide are human dumpster fires. They eat like shit and live like shit. You hear stories of people who have stool issues.
    - You have to live insulin-controlled if you use these peptides and there's no way around it. You have to reduce your carbohydrates, which means not eating fruit when you have diabetes.
- Why "30 Dayz To Shredz" is only being released now
    - It will teach men and women how to lose body fat in the fastest way humanly possible in 30 days without causing metabolic damage.
    - When people say "you can get ripped in four weeks with this bootcamp", it's a scam because they're not doing it right. It's usually a starvation diet or a water fast.
- What most people don't know about ketogenic diets
    - Not only does it rob you of the ability to be metabolically flexible (ex. Enjoying holidays with family and friends), it will damage your insulin metabolism.
    - Jay was the crash test dummy in his 20s for Lyle McDonald's ketogenic dieting book, the FIRST one ever written on the topic. Jay did it for 3 years and it took six months after stopping a keto diet to restore his insulin metabolism to normal. He would have trouble functioning whenever he ate carbohydrates, and his saving grace was that he was lean and athletic.
- Reality: We are not going to use Semaglutide/Tirzepatide forever. Once we come off them, we have to understand how to maintain the lost weight and continue to eat in an insulin-controlled manner.
- TIP: In some of the trials testing Tirzepatide, it was required of patients to use Metformin so they can create a healthy microbiome environment that allows Tirzepatide to work better.

    - Jay has been a 20-year user of Metformin, 12 years for his wife Monica. Nothing works better for cleansing your body of inflammation and restoring gut health.
    - Everything you need to know about Metformin can be found on the JayCampbell website.
- **TIRZEPATIDE DOSE:** 2.5 mg per week injected subcutaneously.
    - You can inject into the belly button, the love handles, or the suprailiac region of your lower midsection.
    - If living a fasted lifestyle where you fast 2-3 days a week, inject Tirzepatide on the first fast day of the week.
    - For obese people, doctors recommend 2.5 mg the first month then double the dosage the next month. No need for heathy leaner people to go beyond 2.5 mg a week as more is not necessarily better.
    - You can stay on Tirzepatide for 3-4 months and then come off it for a month.
    - If you're following the yet-to-be-released 30 Dayz To Shredz program, you can use Tirzepatide for a month, come off for a month, and then use it again.
- **SEMAGLUTIDE DOSE**: 0.25 mg once a week, and the dose can be increased every four weeks up to a maximum of 2.4 mg.
- Tirzepatide will always be the superior choice for fat loss due to the additional metabolic uncoupling it provides, but both are great for appetite suppression.
- NOTE: If you want to find Tirzepatide, you have to join the Jay Campbell VIP Insider Club because it will not be listed on Limitless Life Nootropic's website. It's free to join.
    - China is minimizing the supply chain of the raw materials and Big Pharma agencies are going after the compounders. So if you can afford it, Jay would stock up wherever you can get a supply of peptides right now because who knows how much longer there's going to be supplies available to the general public.

6.2 - Tesofensinse

- It's not technically a peptide, it's a small molecule. Yet you'll see Tesofensine sold as a peptide.
- Over time, it is a metabolic uncoupler and a BDNF enhancer.
- Two dosages of Tesofensine you'll find: 500 mg was what got recommended in December 2021 by compounding pharmacies, and the peptide research chemical companies were selling it at lower dosages of 250 mg.
- The BDNF enhancement is just too strong for some people. 500 mg of Tesofensine has them staring at the ceiling in a state of euphoric flow. BDNF is the chemical within the synaptic, dentritic pathways that makes you feel connected to universal consciousness. It's what people experience when they feel super creaetive.
- The metabolic uncoupling will enhance your basal metabolic rate, so you burn more calories per unit of time at rest.

- No receptor attenuation (so it will keep working over time), no withdrawals, no addictive potentiality. You can quit instantly at any time you want. The only real side effect is that certain people will feel overstimulated while on it.
- However, you would not use this over Tirzepatide if your primary goal was fat loss. It's really more of a brain-enhancing nootropic for creativity. Hunter feels really dialed in and focused when using this compound.
- Tesofensine isn't an appetite suppressant. Rather, what happens is that you're so immersed in the flow of creation that you stop worrying about trivial things such as eating and other distractions. This is helpful since most people eat when they are bored or emotionally triggered.

Module 7 - Growth Hormone Peptides

7.1 - Ipamorelin

- Ipamorelin profoundly altered Monica's physique back in 2012/2013, and it is Jay's favorite peptide for women in isolation.
- Jay is not a supporter of CJC-1295 because the growth hormone pulse created, while very strong, created a niacin flush effect in Jay and many other users.
- **Recommended dosage for women**: 100-300 mcg taken right before bed.
- **General dosage for men/women**: 100-300 mcg taken 1-3 times a day, due to its very short half-life. If you are one of the rare few using Ipamorelin 3x/day, take it in the morning, post-workout (stronger anabolic cascade in the body is created, stronger pulse of growth hormone created it), and at night.
- Ipamorelin does not disturb the body's endogenous production of growth hormone, but no peptide truly does (including growth hormone itself, arguably).
- Your best bet, if you have the resources, will always be pharmaceutical-grade growth hormone.

7.2 - Tesamorelin

- If widely available, Jay would recommend Tesamorelin as the best peptide for men for fat loss.
- Designed for men with lipodystrophy, a hard visceral fat mass that accumulates in the midsection of men suffering from HIV. You inject Tesamorelin into the belly and the peptide will torch right through the fat.
- Although available on Peptide Sciences, most people have informed Jay they do not get good results from it. Plus, they legally are not supposed to be selling it (nobody is because it's a compounded pharmaceutical drug sold under the brand name Egrifta).
- Even more expensive than a doctor's prescription for growth hormone, although Tesamorelin is not as strong as growth hormone.

- If you are old (55+), you likely have no IGF-1 production. Peptides stimulate your endogenous natural growth hormone production, and so you won't get the same results as a 30-year-old who has much more IGF-1 production.
    - Older people can still benefit from growth hormone, but they have to measure their IGF-1 levels in advance if they want to do things right. Measure your IGF-1 levels six weeks after using a cycle of a growth hormone peptide to see what happens. If they do jack shit, growth hormone is your ONLY option.
- If you are in Jay's private membership group, you already know how to get Tesamorelin.
- **DOSE**: 1 mg in the morning and 1 mg at night. This is a saturation dosage shown to produce the most belly fat loss in the shortest amount of time, and is backed up by the clinical studies using the same dose.
- The midsection fat loss with Tesamorelin is dramatic if everything else is dialed in (diet, lifting, cardio, sleep, etc.).
- Be on the lookout for when Tesamorelin is sold via Limitless' insider peptides club, because even there they sell out quick.
- With both Ipamorelin and Tesamorelin, you should follow a "five days on, two days off" weekly dosing schedule to minimize water retention.
- An important note about all peptides:
    - Unlike growth hormone, constant peptide use leads to antibody buildup/formation. Once you have that, the body will resist the effects previously generated by the peptide. This buildup happens somewhere between 8-12 weeks of peptide use, so your best bet is to use a peptide for 8-10 weeks and take an equal amount of time off before doing another cycle.
    - If you use a growth hormone peptide in the context describe above, you should take a break from ALL growth hormone peptides instead of simply switching out for another one.

7.3 - CJC 1295

- Already talked about it, CJC-1295 is a strong peptide to express growth hormone that causes a niacin flushing effect in a number of its users
- Many vendors sell CJC-1295 and Ipamorelin together in combination, and the two together produce a very strong growth hormone inducing effect, but Jay recommends Ipamorelin in isolation.
- If you do use both peptides together, make sure you use CJC-1295 without DAC. It's around 100 mcg a few days a week.

Module 8 - Healing Peptides

8.1 - BPC-157/TB-500

- Two of the most powerful healing peptides on Earth.
- BPC-157 is angiogenic and TB-500 suppresses inflammation, but they work together synergistically.
- They are part of the Wolverine Healing Stack because they renew cellular health and tissue health at the point of origin of the injury. Therefore, it's best to inject them at the site of injury (locally)
    - You do this by pinching the skin. For example, if you have a torn knee ligament, you pinch the skin off the top of the kneecap and inject with a 31-32 gauge hypodermic insulin needle into the skin.
- You can combine both peptides in the same syringe. In fact, Jay has a vial containing BPC-157 and TB-500 he carries around with him all the time when he travels in case of a catastrophic injury.
- Dosages are on the website and in the book, but here they are: **200-750 mcg of BPC-157 and 2.5-3.0 mg of TB-500 daily, injected locally at the site of injury, intramuscularly or subcutaneously**. Do this protocol for up to 12 weeks depending on the nature of injury. You can go down to a weekly dose for more acute injuries, or general maintenance if you feel you really need it
- BPC-157 is very powerful for helping with traumatic brain injury. Helped Hunter a lot because he suffered from concussions as a result of playing college football, which means it was mitigating inflammation.
- SIDE NOTE ON METFORMIN:
    - Dihydroberberine is a very strong version of berberine (a glucose disposal agent), but it is nowhere near close to the efficacy of Metformin. You can use both of the mat the same time if you want, but they are NOT equal.
    - Metformin is the most scientifically studied medical agent on the planet. There are total dumpster fires of human beings (health wise) who take Metformin until the day they die, never doing anything else to manage their diabetes. And even they live much longer than the dumpster fires who do NOT use Metformin.

8.2 - GHK-CU

- The "SHAMWOW" peptide.
- You can use GHK-Cu in a topical/transdermal cream or serum. It is found in the highest-end face creams and supplements, but they do not use nearly enough GHK-Cu.
- Back when Jay and Nick Andrews ran Aseir, they had the highest-concentrated GHK-Cu formulation around and their competitors were not close.
- Nick Andrews is forming a new company called Entera, and will launch with 2-3 new skincare products that will outrival anything sold from Aseir. This will be on

top of a brand new hair regrowth product called Folitin that Nick says will be 3-5x stronger than Auxano Grow V2.
    - Stay tuned for when the pre-sell launch happens! 1000 bottles total will be made and each bottle will sell for cheaper than an order of Auxano Grow V2. Folitin will work for treating hair loss due to numerous conditions (autoimmunity, hormonal imbalance, etc.).
- Copper peptide with so many uses
    - Improves fine lines and wrinkles.
    - Gets rid of scars and burns.
    - Increases red blood cell flow to the face.
    - Thickens and improves collagen density in the face.
    - Natural UV protection effect.
- While GHK-Cu can be injectable, it burns like absolute hell in 50-60% of users (a warning to anybody who wants to inject it in their scalp for hair regrowth).

Module 9 - Immunity Peptides

9.1 - Thymasin Alpha 1

- Thymosin Alpha-1 is the strongest peptide available for strengthening your immune system.
- You definitely want to have this on you when you are traveling the world
    - A business traveler can use a very low weekly maintenance dosage and feel fine no matter what pathogens they come across.
- It can also help regulate your circadian rhythm
    - Your immune system can be suppressed by heavy traveling due to going back and forth between different time zones, which offsets your circadian rhythm.
    - This peptide can be a kickstart for international travel where you are exposed to different things and environments your natural immune system isn't used to.
- **MAINTENANCE DOSE**: 1.5 mg injected subQ twice a week in evenly spaced doses.

9.2 - VIP and PE-22

- VIP = vasoactive intestinal peptide. People can use this if they have advanced stages of COVID and can get the sign-off for its experimental use in elite hospitals.
    - Can be used intranasally to enhance oxygen intake when you are immunocompromised.

- PE-22-28 is used by Dr. Elizabeth Yurth of the Mile High Clinic in Denver, and is one of the only doctors I know in North America who uses it. It's an antidepressant peptide shown to lower the incidence of depressive feelings and behaviors in rats. No human studies yet.
- **RECOMMENDED PE-22-28 DOSE**: 400 mcg administered intranasally once a day in the morning
- **RECOMMENDED VIP DOSE**: 50 mcg intranasally within each nostril, up to 4 times per day for 30-90 days. You use VIP for an acute viral illness, but it will reduce high blood pressure and improve oxygenation to the cells in severely immunocompromised people.

Module 10 - Anti-aging/Life Extension Peptides

10.1 - MOTS-C

- MOTS-C is a mitochondrial health optimizing peptide.
- The less mitochondrial optimized you are, the better the effect you'll experience when injecting MOTS-C.
- It will increase your energy stores, upregulate your mitochondrial supply and density.
- Remember high school biology: The mitochondria are the powerhouses of the cells
- We all have biochemical individuality and will respond differently, and MOTS-C happens to have multiple dosing strategies.
- But as a general principle, MOTS-C is best used if you are heavier and don't have the mitochondrial optimization of a leaner and healthier individual.
- **DOSE**: Ben Greenfield likes 10 mg injected weekly, right before endurance exercise to increase energy expenditure. He repeated for up to 10 weeks in a row every year.
    - Dr. William Seeds says 5 mg of MOTS-C injected subcutaneously 3 times a week on Monday, Wednesday, Friday for 4-6 weeks.
    - Dr. Rob Kominiarek: 10 mg of MOTS-C injected subcutaneously weekly for four weeks straight
    - Jay Campbell: Tried injecting the entire bottle back in 2018 at one time (off the recommendation of Ryan Smith, who worked for Tailor Made at the time). Injection happened at 11am, and Jay spent the entire night staring at the ceiling. It threw his energy through the roof.
- Not cheap, so use this if you fit the profile of a less mitochondrial optimized person

10.2 - Epitalon/Thymalin

- Epitalon and Thymalin are not peptides to use unless you're older than 40.
- They are functional telomerase enhancers. Telomerase is the enzyme that causes your cells to divide optimally as you age. As the enzyme becomes less functional, you start aging faster due to your telomeres shortening faster.
- Both Epitalon and Thymalin are used together in cycles of 10 days in a row, once or twice a year. This will help improve your lifespan.
- Exact dosages can be found in my peptides book.

Module 11 - Consciousness Peptides

11.1 - Melanotan 1

- Also called Afamelanotide, known for its tanning effects.
- This medication is prescription-controlled, extremely expensive and is very difficult to get (thanks Big Pharma)
    - Limitless Life Nootropics may have it as part of its private peptide buyer's club.
    - In the old days, you could buy one 10 mg vial of Melanotan 1 for $10.
- Due to its enhancement of melanin and melanocortin receptor complexes in the body, it enhances consciousness. So if you're doing the inner work outside in nature, Melanotan 1 gets you into the theta wave mind state much faster.
- Jay started using this peptide in 2009 and 2010 while competing as a male physique athlete for its tanning effect. He also noticed himself becoming more spiritual at the same time, didn't connect the dots until many years later.
- Frank Barr's fundamental work on melanin and how melanocytes are very powerful structural integrities of entire cells and biological cell systems was the missing piece to explain Melanotan 1's consciousness-enhancing effect.
- If you use Melanotan 1 just for the tanning effect, Jay's pet theory is that he's permanently changed his skin color to a darker complexion due to using it on and off since 2008.
    - Contrast this to Melanotan 2, which gives you an orange-ish complexion. Hunter once tried going to the beach using Melanotan 1 and not using sunscreen, and yet his skin wasn't burnt at all. This allows him to get the benefits of the sun without the burning that leads to skin cancer (not the sun itself), which explains why we never saw skin cancer in ancient times but are seeing it in the 21st century.
    - So in a way, Melanotan 1 "upregulates" your ability to receive information from the sun. Like switching from dial-up to fiber optic internet.
- Melanotan 1 is nothing like DMT or psilocybin, but your ability to understand your connection with the cosmos in a very deep way will improve. It's the most powerful thing for strengthening the mind-body-spirit connection.

- **DOSE**: A very low microdose, 0.25 mg once or twice in the morning per week to enhance consciousness. Jay loves using Melanotan 1 before exposing himself to the sun
    - Warning: If you live in a sunny climate like Mexico, avoid the sun between 11am-2:30pm because it is extremely intense. The photonic waves of the sun at that time are very bright and burning.
    - Avoid slathering sunblock all over your skin, because that will give you more cancer than the sun ever could.

Module 12 - Nootropic Peptides

12.1 - Cerebrollsyn, Selank, Semax, Dihexa, Orexin A

- Cerebrolysin is a very strong nootropic peptide, one Big Pharma really does not like research chemical companies selling due to its strength.
- The peptide you want to use in super high dosages for treating neurodegenerative disease like Alzheimer's or dementia.
- Some background on neurodegeneration:
    - Most neurodegenerative disease is in fact Type 3 diabetes induced by consuming too much sugar, alcohol and acidic food that leads to type 2 diabetes once the pancreas' chemoreceptors fails… and from there it evolves into Type 3.
    - Also, most people who get neurodegenerative disease do not use their brains. If you DO NOT actively exert your brain as you age, the likelihood is high you will get some form of Type 3 diabetes.
    - Do crossword puzzles, any activity that forces you to think. That's on top of living an insulin-controlled lifestyle. Most people, even doctors, don't understand what is healthy, what is a protein, a fat, a carbohydrate, etc… anybody can make pivots in their life and dramatically prevent, if not control their ultimate outcome of neurodegenerative disease.
    - The scary thing about diabetes, especially Type 3, is that you don't have to be super overweight to have it. Shitty living habits over decades will get you there regardless of body size.
- Yet another reminder that peptides are not magic bullets
    - Peptides have to be used in combination with a fully optimized lifestyle. You will not be able to inject/swallow a peptide and overcome 30 years of poor health habits.
    - You don't "catch" diseases like dementia. It's a buildup of a lifestyle carried out over years and years. Healthy people don't just "get" Alzheimer's or dementia or Lou Gehrig's. It does not work that way.
    - Of course, there are ALWAYS outliers and exceptions. When you look at the overwhelming majority of octogenarians, most of them are in Asia/Japan, they are tiny, thin, and don't have any body fat. They eat a macrobiotic diet and do a lot of brain stuff, and that's why they live longer.

    - An example of an exception would be the people who live to 110 and smoke cigarettes. But they're also lean, and they smoke 3-4 cigarettes (not 20 packs a day). Nicotine itself is dopamine-enhancing, appetite-suppressing, thermogenic.

- Semax, Selank, and Dihexa can be injected, taken orally, or used as nasal sprays.
- Jay is not personally a big believer in nootropic peptides because he prefers to use Tesofensine (before that, Modafinil was his go-to nootropic).
- Jay feels something on 40 mg of Dihexa, but he doesn't touch the rest.
- Cerebrolysin would only be used by Jay if he or a loved one had a neurodegenerative disorder, and at high dosages. No doctor will support this because there's no peer-reviewed science and the treatment would be highly experimental.
- Some people use high dosages of Cerebrolysin to somewhat reverse neurodegenerative disorders and diseases. But be wary of ever trying to do this to someone while they're in the hospital. If you get caught, your family will be discharged and you'll get kicked out of insurance.
- If you do want to use these nootropic peptides for something like brain fog, first make sure you don't have a hormonal deficiency. You can use these peptides to go from a 9 to a 10, but for something like chronic fatigue, you want to get your inflammation and hormonal deficiency solved first.
- FGL is an experimental peptide Jay used back in 2018, didn't really notice an effect (covered in the book)
- Orexin-A was originally a narcolepsy drug because it improves wakefulness. Many customers at Limitless Life Nootropics saw it is very similar to Modafinil with respect to enhancing cognition and not causing receptor burnout.

Module 13 - The God Stack - Jay's Go To Peptides

13.1 - The God Stack

- Therapeutic testosterone
    - Hormonal deficiencies is the new standard of the world, and now an aging person could be as young as 30 and up.
    - We are under biochemical siege everyday from our environment, plastics, food we eat, air we breathe… and our endocrine systems are damaged.
- Desiccated thyroid
    - Optimize the thyroid gland and your body's temperature regulation.
- Metformin
    - Optimized blood glucose and live insulin-controlled.
- Melanotan 1

        - High-consciousness and skin-tanning.
- Human growth hormone
    - If you can't get this, Ipamorelin and Tesamorelin and CJC-1295 are your next best options.
- Tesofensine
    - BDNF production and metabolic uncoupling.
- Tirzepatide
    - Appetite suppression and ease of long fasts.
- Melatonin
    - Enhances sleep
    - Recently did webinar with Doris Loh, one of the world's leading experts on melatonin. Jay will be experimenting with super-high dosages of Melatonin before bed at night. 2-3 grams right under your tongue or inside your gums to let it absorb and go to sleep. There are stories of people leaving their bodies and astral traveling.
    - Profound research coming out now about melatonin, especially its effects for treating COVID and long COVID.
- Peptides for fat loss
    - Ipamorelin, Tesamorelin, CJC-1295 for growth hormone production. CJC-1295 is the third favorite
    - Tesofensine
    - MOTS-C if you are fat
- Peptides for muscle gain
    - 5-Amino 1MQ is what Jay likes to gain muscle while eating a caloric surplus (although antibody buildup happens fast with this peptide).
    - Tesamorelin and Ipamorelin together with high calories is the best combination.
- Healing/immunity peptides
    - BPC-157, TB-500, Thymosin Alpha-1 at maintenance doses.
- Longevity
    - Thymalin and Epitalon.

Module 14 - Understanding How To Combine And Use Multiple Peptides

14.1 - Different Delivery Mechanisms

- Very few peptides can be taken orally
    - All the oral formulations you see on Facebook or on Dr. Seeds' website are worthless due to the dosages being too low. Legally they can't put an effective dose in an oral peptide supplement.

        - Any effect you experience from oral use will come in the form of cleansing your microbiome. Most of the peptide will be broken down in the liver and the bloodstream. Every other effect is placebo.
        - If you really want to address gut issues, Metformin is a lot cheaper and a hell of a lot better than oral BPC-157.
    - Topical formulations
        - GHK-Cu serum/cream is your best bet.
    - Intranasal
        - Limitless Life Nootropics sells a lot of these sprays
        - Many nootropic peptides come in this form, and VIP is also good in nasal form
    - Bioregulators
        - Next 4-6 months on the Jay Campbell website will be spent analyzing each individual bioregulator in deep detail, and what organ or biological system each one regulates.
        - Mostly oral, work on various biological systems.
        - Cheap and no side effects.
        - We recently wrote about Ventfort, the blood vessel bioregulator that improves blood flow.
        - There's one for the prostate, one for the testes to improve fertility, and many more.

14.2 - Peptide Cycle Lengths

- Antibody buildups happen around 8-12 weeks, so that duration is the best bet for most peptides.
- Take an equal amount of time to let your body recover (ex. 8-12 week cycle, 8-12 week break, rinse and repeat).
- Make sure you have ONE goal in mind when you are doing a cycle. That means you won't be taking fat loss peptides if your main goal is longevity, for instance.
- When you use peptides for a certain period of time, especially the growth hormone inducing peptides, the body will adapt as it's a very homeostatic and dynamic organism. Eventually the peptides just stop working as effectively.
- When your antibody buidup starts, you get more water retention in the lower midsection. If everything is dialed in for 2-4 weeks, you'll see a cascading effect for the next 2-4 weeks after that. After that, things start slowing down.

14.3 - Combining Multiple Peptides In The Same Vial/Syringe

- For example, with BPC-157 and TB-500, you inject both. Think of the Wolverine stack. You can, if you want, take your BPC-157 vials and mix them with your TB-500 vials into one separate hermetically sealed vial with bacteriostatic water and keep them together. That way, you use both in one injection.
- This is a bit advanced, but you can absolutely take this approach.

- What you DO NOT do is mix a nootropic peptide with Tesamorelin or CJC-1295. If you put two peptides in the same vial, make them both relevant to what you are using.
- Epitalon and Thyamlin can be used together, as you inject them for 10 days in a row together at the same dosage (5mg each)
- Read the peptides book and educate yourself. If you now what the peptide is doing and another peptide is synergistic with that first one, then generally you can combine them in the same syringe.
- Mixing different non-related peptides together gives you cross-chain reactions, or one peptide may make the other peptide inert.

14.4 - How Many Peptides Can You Take At Once

- Think about it from a pathway perspective. You want to hit ONE pathway specifically. You want to be able to measure what's working and what's not.
- How many peptides can be used at one time? It is very context specific.
    - If your goal is fat loss, you won't be using a muscle gain peptide. And you have to understand you are also using a caloric deficit to lose body fat as well.
    - For healing, you definitely need higher caloric consumption (specifically higher carbohydrate consumption) for tissue rebuilding. That's on top of more water consumption and more sleep and less cardio.
    - That's not to say you can use a maintenance or micro dose of BPC-157 and TB-500 if you want to heal while doing a fat loss phase. And you won't need to use nootropic peptides since you're hopefully using Tesofensine.
- Consider your goals in order of importance. Treat this journey like a series of building blocks you lay down one at a time to build a foundation.

Module 15 - Quick Fire Q&A

15.1 - Random Q&A Part 1

- Susan: What does "hormonally optimized" mean as a female?
    - Get your blood work done. Look at your total and free testosterone, your estradiol, your progesterone, etc. Have all of those optimized through a hormonal optimization intervention with an experienced physician.
    - Jay's #1 recommended vendor is MHI Life in Miami, Florida.
    - If you're in your early 20s, it's less likely that you have the same issue as someone in their 30s and older. 75% of the globe is hormonally dysregulated. Most of the problems that we have on the planet right now are due to hormonal imbalances making people full of anxiety, full of nervousness, with no energy to survive. They're obviously obese or they

have a metabolic dysregulation because they have a hormonal imbalance.

- Tom: What happens if you shake the vial too hard during reconstitution?
  - You defrag/destabilize the peptide before it's expanded and made into liquid form, so you can make the peptide not as efficacious and less bioavailable.
- Kristen: What is the expiration date of reconstituted peptides?
  - A peptide reconstituted in a vial and kept at refrigerator temperature will maintain roughly 68-72% efficacy for six months. So you do lose efficacy, but not to the point where it's worthless. But generally you just don't want to inject peptides beyond six months of reconstitution.
  - To get the maximum efficacy out of the peptide, you probably have 3-4 weeks. Some experts go as far as to say you should use all of the reconstituted peptide within 14-17 days following reconstitution.
  - Jay has a big vial of BPC-157 and TB-500 mixed together he carries with him in a cooler bag that's 7 months old, but still works at 75% efficacy. No point for him to keep redoing a new batch of both peptides every 3 weeks.
- Laura: Exactly how much bacteriostatic water do you use?
  - Use the free peptide calculator on Jay's website to answer this question. Always use the 1 CC (1 mL) syringe in your calculations to make the math as easy as possible.
  - For a vial with 2 mg of peptide or less, a good rule of thumb is to use half a millimeter of bacteriostatic water.
  - For a vial with 2 to 5 mg of peptide, a good rule of thumb is to use 1 millimeter of bacteriostatic water.
  - For a vial with 10 mg of peptide or more, a good rule of thumb is to use two millimeters of bacteriostatic water.
- Danielle: Do you need to see a functional medicine practitioner to determine the optimal range for your biomarkers?
  - If you want someone to help do this for you, go ahead. For getting your labs measure for the first time, you don't need a doctor.
  - You go to privatemdlabs.com/jayc, pick Basic, Intermediate or Advanced (15% off with code JayC). Anybody older than 35 and has never done a blood test should pick the advanced option.
  - Make sure you get your inflammatory markers measured!
  - Just because you're in the normal range doesn't necessarily mean you are healthy, or that you don't need hormonal optimization
- Wendy: I'm concerned that the FDA won't allow compounding pharmacies to provide compounding hormones. Will Limitless Longevity provide them?
  - There will be alternative pathways and options that will be developed to overcome Big Pharma suppression, but the next 3-6 months will be very shaky grounds for the future of telemedicine.
  - Laws may be changed that will affect how often you have to meet with your physician to get a prescription refill, and how much medicine you can get in a single visit.
  - Limitless Longevity may provide hormones and peptides directly to clinicians, but not compounded. That's all Jay can say for now.
- Eva: Does it matter if you take peptides at night 2 hours after food but right before bed, or the very first thing in the morning?

    - Yes! We get insulin from any food consumption. Fat and protein also create an insulin spike, it's just minor compared to carbohydrate, which is more like glucose controlled and regulating from a sugar standpoint or insulin, a direct insulin response.
    - This matters because we want our stomach and microbiome clear of insulin to ensure the peptides have the best chance possible of crossing the blood-brain barrier.
    - Some peptides you can inject post-workout because you'll get better absorption when your insulin is spiked up (ex. Ipamorelin, Tesamorelin, CJC-1295, the growth hormone inducing peptides)
    - For most people, peptides should be taken at night before bed and in the morning on an empty stomach right when you wake up. If you eat a light meal of carbs and protein and essential fats at night, using peptides 90 minutes after is good enough.
- How much bacteriostatic water (this was asked again)
    - General rule: Less than 2 mg of peptide in the vial = half a CC, 2 to 5 mg = 1 cc, 6 to 10 mg = 1.5 cc, 10 mg or more = 2 CC, 20 mg = 3-4 CC (assuming you are using a hypodermic 1 mL 31-32 gauge insulin needle).
    - All peptide reconstitutions are aqueous based, which means you don't have any clogging and the solution will slide right through the needle.
    - When in doubt, use the free peptide calculator (1:15:00 – 1:17:30 to see how it's used). Always ensure you are using 1 mL syringes to make the math as easy as possible. Over time these calculations will become effortless.
- How to travel with peptides properly
    - Peptides MUST stay refrigerated constantly, otherwise the molecules will break down and become useless.
    - You need an insulin cooler, which is a mini–ice pack travel case that comes with pouches for holding ice packs. These cases will help keep your peptides cool.
    - Unless you are traveling for multiple days, it will be enough to last until you find a fridge in your hotel room to put your peptides in.
    - The cooler will also have pockets for ancillary supplies such as your insulin syringes.
    - You MUST keep your insulin cooler in your check-in luggage to avoid running into issues with the TSA. Pay the 30 bucks to check your bag. NEVER carry anything into a plane. It only takes one asshole questioning what you're carrying to ruin your trip, even if you have a script from your doctor and your medical documents.
    - Easily found for $15-16 on Amazon, the more expensive ones are $50 and come with electric motors but you don't really need that.
    - In Jay's insulin cooler, he has: His growth hormone pen, his insulin syringes, a vial of Thymosin Alpha-1 and his 7-month old vial of BPC-157 and TB-500.
    - As long as you are in a refrigerator within 36 hours of packing your peptides, you'll be good. In the worst case scenario, most hotels will bring a mini-fridge
- Lorie: Why is GHK-Cu through Limitless Life Nootropics only available as a nasal spray? How much of it do I use?
    - Limitless Life Nootropics is not a compound pharmacy and they do not have a medical license.

    - However, the spray is reconstituted and you can inject it right out of there.
- Donna: Thoughts on using BPC-157, GHK-Cu, TB-500, Ipamorelin/CJC-1295, MOTS-C at the same time?
    - You cannot have a goal of three or four different health outcomes, use all of the peptides like a shotgun and expect them all to work simultaneously at the same time.
    - MOTS-C and Ipamorelin/CJC-1295 will be great for losing fat, BPC-157 and TB-500 will be great for healing injuries.
    - DO NOT think you will be able to use peptides to build muscle and lose fat at the same time. The main differentiation between fat loss and muscle gain will always be caloric intake. You increase thermodynamic movement patterns and restrict calories for fat loss, while doing the opposite for muscle gain.
    - Likewise, fat loss involves losing primarily fat and no more than at minimum a trace amount of muscle, while muscle gain involves increasing primarily lean muscle mass and no more than at minimum a trace amount of body fat.
- On the incorrect use of GLP-1 receptor agonists
    - On average, the patients using them are obese and metabolically dysregulated. So they'll get a script for Semaglutide or Tirzepatide, it works its magic, the patient stops eating and loses 35-40 pounds… BUT their thyroid and metabolism are completely damaged (sometimes permanently).
    - They are not eating enough protein, training to build muscle tissue that will increase lipolysis and resting basal metabolic rate (BMR), or doing anything to offset the damage of chronic appetite suppression. Then again, the doctor is the one writing the prescription and so they should be the ones who take on the role of patient education.
    - You have quacks like Dr. Peter Attia scream to the airwaves about how GLP-1 receptor agonists are killing people because of these misunderstandings.
    - Drugs like Tirzepatide are highly effective at what they do, but they are not a permission slip to stuff your face and eat as much as you want.
- 30 Dayz To Shredz
    - Will be the first book in the marketplace to show people how to lose the most amount of body fat possible in 30 days or less, using the scientific technologies and biochemical tools that we now have at our disposal to do it in the context of health and longevity.
    - You will be able to do this without damaging your metabolism, losing muscle, causing your thyroid to crash, OR regaining the weight back.
- Insulin-controlled living
    - your blood glucose through carbohydrate restriction (and caloric restriction). The fatter you are, the fewer carbs you get to eat. You also have to use insulin mimetics like Metformin and Dihydroberberine, lift weights and do the right type cardiovascular exercise.
    - Practice metabolic flexibility. Understand your daily energetic demand (ex. Office worker vs. firefighter), eat relatively to that to fuel your body. It's not about being low-carb, keto, carnivore, or whatever diet fad is hot.

    - One thing for sure: If you lift weights 3-4 times a week, you must eat carbs regularly to fuel your glycogen reserves. Don't try to be a smartass and say "I do keto and re-feed once a week with carbs".
- Bringing peptides on the plane?
    - Don't take the risk and be a hero. Put them in your check-in bags every single time.
- Evan: When taking peptides out of the fridge, do you have to allow the vial to reach room temperature before drawing out a dose, or can you immediately draw and inject?
    - You can draw and inject right away
- Tom: Buying quality needles
    - Make sure you are getting STERILE needles. Avoid the non-sterile needles.
- Eileen: How do you know when you should inject IPA/CJC morning and night? Just doing evening now, 200/100. Your book says one to three times a day.
    - No, the book says 1-3 times a day depending on your lifestyle and your goals.
    - Jay is no longer a big proponent of Ipamorelin and CJC-1295 together. They are strong together, you get a strong growth hormone pulse but Jay doesn't like the feeling of CJC-1295. It gives him a niacin-type flush from it, and around 30-40% of people who use CJC-1295 experience the same side effect.
    - Ipamorelin in isolation is good because it's the only growth hormone peptide scientifically shown to NOT raise prolactin or cortisol levels. It doesn't disturb your pituitary gland's natural production and secretion of growth hormone, provided you aren't using 20 IU's a day like an idiot. The only people saying it does are missing the forest for the trees and reading too many PubMed studies. The disturbances you see come from kids who had dwarfism and were using 40 IUs a day of growth hormone. Contrast that with people who use 1-2 IUs for anti-aging purposes.
- Geo: I'll carry TRT in my carry-on luggage
    - Consider yourself very lucky. Jay has been doing this a lot longer than any you have, and he doesn't get in trouble because he's not stupid. When you play games with retards, you end up getting burned. You are choosing to play Russian roulette. Even if you have a medical carry-on with a doctor's prescription, it means jack shit. He's been through +150 airports to back up his experience.
- Geo: Calcification in the delt from pinning peptides and oils?
    - Yes, Jay has scar tissue on his arm he's never been able to get out (see the video). Used to have giant scar tissue formation before his Active Release Therapy (ART) lady got it out. That scar is known as fascial adhesions. And if you inject into the muscle IM, shallow or deeper from an oil-based anabolic or androgenic, you will definitely get scar tissue and you definitely can have what you think is calcium. You think it's calcium because it's so hard and dense, but it's actually coagulated fascia, and the fascia becomes so hard that they feel like rocks.
- Kristine: Disease-specific peptide use?
    - In this context it's all experimental, no real science to prove anything. You may be able to address root causes of specific diseases, but with peptides it's mostly speculative.

- Leo: Am I doing things incorrectly by combining all 3 of my peptides together?
    - It really depends on what you're using it for. Healing peptides together (GHK-Cu, TB-500, BPC-157) but I would not be putting BPC-157, TB-500 and Ipamorelin. Or Tesamorelin and BPC-157 and GHKCU. That's when you're running into issues with cross chain linking or reactions, Jay would not do that.
    - Not to mention if you put too much stuff together, you don't know what actually works or isn't working to do something. Test one at a time and see if you get results from it or not.
- Mick: What biomarkers should we test for to ensure optimal hormone profile?
    - Go to privatemdlabs.com/jayc and just click on one of the labs (use code JayC for 15% off). There's three of them, and you will see all of the biomarkers listed.
- A reminder that peptides are not magic bullets and you have to be hormonally optimized
    - 90% of people start peptides, they don't get their biomarkers measured, and they have absolutely no idea if they're hormonally optimized. Again, 75% of the planet right now has a hormonal imbalance/deficiency. Of that 75% of people, 90% of them don't even know it. They have no idea. If you're walking around morbidly obese in America or any first world or second world country, the likelihood that you have a hormonal imbalance or deficiency is 98%. Metabolic dysregulation and obesity causes that. It's literally second nature.
    - That's why all the top optimization healthcare doctors out there will tell you that the first line of treatment or defense is hormonal optimization to get rid of metabolic dysregulation and obesity. Because again, therapeutic testosterone and other hormones are lipolytic, which means they enhance metabolism and burn fat.
- On using peptides while taking hormones (ex. Testosterone) at the same time
    - They work together to enhance the symphony.
    - Your endocrine system, your thyroid gland (the master control and temperature regulator) and your pancreas (your blood glucose and your insulin sensitivity), it's a symphony. And when you have all three of them somewhat optimized and balanced, you are going to keep the wheels spinning at the right speed. Taking peptides or growth hormone to have all three of those things optimized is the ultimate ticket to full spectrum optimization.
- A reminder about storing peptides
    - Do not leave them sitting out exposed to light in a warm, humid place. You will damage the viability of the peptide and lower its efficacy. Keep peptides in a cool, dry place away from sunlight.
- Tom: What brand of insulin syringe do you recommend, and is there any major difference between growth hormone brands?
    - For the syringes, Easy Touch are the most found. Terumo is the best, uses the highest quality surgical steel but they are a bit more expensive.
    - Two best growth hormone brands are Genotropin from Pfizer and Norditropin from Novo Nordisk. Come in the form of non-counterfeited pens. US quality growth hormone is OK, Chinese quality is all right, but the two we mentioned are the best. The US/China ones are great for one use but nothing beyond that.

- Justin: A peptide to lower hemoglobin?
    - You don't need to lower your hemoglobin. We are writing an article about hemoglobin and hematocrit and the over phlebotomizing of men. When you take testosterone and you inject it, you increase the oxygenation of your red blood cells, which is actually a good thing. But you also thicken the blood. And so if you're not doing regular cardio, which is like 90% of men on therapeutic testosterone, you're not exchanging the blood and the tissue, and the oxygenated red blood cells regularly through regular cardiovascular exercise. So you do get thicker, heavier blood.
    - And then doctors see the hemoglobin count raise, which is still safe as long as you don't have elevated platelets, which is a genetic disease called polycythemia vera, and they just instantly send you for phlebotomy. So you don't need to lower your hemoglobin ever unless you have polycythemia vera, which is a genetic condition and there's medications for that. But no, there's no peptides for that.
- Anthony: Where can I get Melanotan 1?
    - If you are a member of the JC VIP Insider group, you can get it through a private buyer's club.
- Colette: HRT or Biochemical?
    - There's no difference. Anybody who tells you that there is, is lying to you and doesn't know what the hell they're talking about.
- Steve: Will a peptide work if your body is not producing human growth hormone?
    - If you are 55 to 60 years old, and you're not in good health, the likelihood that you have any circulating IGF-1 levels is almost zero. So, in standing to reason, how is a peptide going to work for you if we know that peptides are only increasing the body's endogenous (natural) production of human growth hormone?
    - So a lot of people are out there who are morbidly obese and metabolically dysregulated are using peptides, and they get no results. And they're like, "It doesn't work. I'm being scammed." No, you don't have any IGF-1. You don't have any natural growth hormones. So the peptides aren't going to increase what ain't there. So your option is to get on growth hormone at a low surgically precise dose.
- RC: Is there a peptide to help me come off finasteride for hair loss?
    - Yes, depends on how long you've been using finasteride.
    - Finasteride is a DHT inhibitor, and so you are miniaturizing the follicle in the scalp and the DHT inhibitors attach to it. So when you stop, the hair follicle dies and it falls out and you lose your hair. So what you want to put in there is GHK-Cu
    - Jay is using a brand new hair loss product and it's led to tremendous regrowth in the last six weeks (see at 2:12:38). You can't even tell he has thinning hair. It's a proprietary mixture of GHK-Cu and three other peptides. It will be pre-sold from Nick Andrews' new company called Entera during the first or second weekend of May.
- Difference between Melanotan 1 and 2?
    - Read the articles on the website.
- FullyOptimizedHealth.com
    - The best private membership group on the planet. No normie bullshit. It's very advanced. But we also answer questions. If you come in there as a newbie and you ask basic questions, they will answer them all for you.

But if you ask amazing questions and you get really into the science and the deep dive of it, you're going to get amazing answers, because everybody really spends time in there to fix things
    - Every Tuesday Jay does 60 to 90 minutes of an AMA. You can ask him questions. And again, the real selling point of the group is, if you're in that group, you can talk to him. No one else can talk to him. He doesn't answer emails, he doesn't answer social media messages. You can't text him anymore.
    - No contract, you can cancel anytime. All content released in the past, present and future is free for members.
- Danielle: Is Ipa in the morning and CJC in the evening? What do you recommend for a female who is lean and strong but want to optimize body composition, or is there another peptide?
    - As a woman, all you need is Ipamorelin at night. Jay's wife Monica got into the best shape of her life at age 41 with just 200 mcg of Ipamorelin every night, Monday through Friday. You don't need CJC-1295 unless you're really fat and metabolically deranged.
- More information about 30 Dayz to Shredz
    - Will be the best fat loss book ever written in history. Most people who promise massive fat loss in 30 days are scam artists. Four years ago you could not write a book like that because we didn't have the tools and technologies we have now, such as Semaglutide and Tirzepatide. Even better tools will emerge if society doesn't collapse.
- Geo: Will clomiphene monotherapy work long-term for hypogonadal men in their 20s.
    - Will it increase fertility in LH and FSH so that you can have kids? It absolutely will. Will you feel good on it? Absolutely not. Unless you're an outlier. You want to add?
    - It'll get your lab numbers in range, even your total testosterone (not your free testosterone. Long term it does cause eyesight problems in a lot of people (eye floaters).
- Quick note on bioregulators
    - They have "heart" bioregulators that can regrow heart tissue. Imagine being able to take a capsule 10 days a month every two months and rebuild your heart tissue.
- Sterile water, reconstitution water, bacteriostatic water
    - Are usually the same thing, although sterile water can only be used one time.
    - Just get the reconstitution solution from Limitless Life Nootropics. Ensure it has the 0.9% benzyl alcohol.
- A favor
    - If you appreciate this webinar and you can write a testimonial, send it to jay@jaycampbell.com. Just a short two to three sentence testimonial. Jay will publish it if you're okay with it and you give him permission.
    - Everyone who sends a testimonial will get a PDF copy of my peptides book that also includes a bonus chapter written after the book launch called "Heal Your Body Like Wolverine". It contains dosing strategies for the best healing peptides.

15.2 - Random Q&A Part 2

- Robert: Can you take HGH and Ipamorelin at the same time?
  - Yes, but why would you? Ipamorelin is doing something to HGH but not as well. So no reason to do so.
  - Other than healing peptides or nootropic peptides, no good reason to use growth hormone inducing peptides like Tesamorelin, Ipamorelin, or CJC-1295 if you're using growth hormone. Plus, pharma-grade growth hormone is stronger and will provide a more profound effect.
- Wade: How to access Episode 1
  - If you RSVP'd in advance, you should have access it. Make sure you do so because both episodes are going to be made into a course.
  - You'll have access to both episodes for life. Hey will be uploaded in a cloud-based server and put behind a firewall so nobody can download it.
- Philippe: Can you touch on IGF-1 LR-3?
  - It's an IGF peptide, a fractionated protein peptide.
  - Was one of the early peptides, can be used to enhance muscle building but doesn't work in everybody that uses it.
  - Very expensive, has a short half-life, not recommended.
  - Just use growth hormone at 1-2 IU's
- Tanis: If I bought the audiobook, can I get the PDF?
  - Send an email to jay@jaycampbell.com and attach your proof of purchase of the audio version.
- Jim: Best peptides for elevated PSA and/or large prostate?
  - There is a bioregulator for it, one that reduces benign prostate hypertrophy. Jay will write an article about it soon.
  - Jaycampbell.com/bioregulators will be uploaded soon, dividing each bioregulator into the organ systems they effect.
- Eva: Does caloric deficit affect gym performance?
  - Yes.
  - 30 Dayz to Shredz, Metabolic Blowtorch Diet, Guaranteed Shredded… in all 3 programs, you never lift on fasting days so you won't have low energy in the gym.
  - We do everything based on science and field testing. Jay has been doing this since 2009, and it's been 4-5 years for Hunter.
  - If you attempt to train fasted, your training sucks and who you are. Fasting in this context is not eating for 20+ hours. If you attempt to lift weights while fasted, you won't have your muscle glycogen stores full. You have depleted amino acid stores in the muscle belly.
  - Therefore, you won't be able to train as intensely as someone training with a stomach full of carbohydrates.
  - You ONLY train on days you are eating carbohydrates.
  - If you train fasted, the chance of catastrophic injuries (torn tendons and tissues) is very high.
  - If you are aiming to lose fat, you won't be as strong as you normally are, but that's OK.
  - If you are a competitive athlete (triathlon, powerlifting, etc.), you never want to train intensely in a caloric deficit. And you wouldn't use GLP-1 receptor agonists if you want to go for one-rep maxes in 30 days.

    - Then again, the majority of people in the gym do not lift at max intensity via positive muscular failure training.
    - No matter who you are, you cannot do more than 2-3 work sets per body part to positive muscular failure. If you do 4-6 sets per exercise and 5 exercises per body part, you are not training at maximum intensity. You are leaving too much room in the tank.
    - If you understand how to train to positive muscular failure and target all 3 energy systems (anaerobic, aerobic, creatine phosphate, you will build muscle.
    - 3-5 reps per set won't work for muscle gain unless you are genetically elite. You build muscle when you learn to contract fibers at maximum capacity, eliminating ego and momentum.
    - If you think two work sets is not enough, workout with Jay or Hunter and you will learn it's more than enough. Jay Cutler used to do 25-30 rep squats ass-to-grass with 185-225 pounds. And he never went heavier than 100 pounds on dumbbells.
    - Ronnie Coleman was the one bodybuilder he knew who did insane amounts of weight, but now his body is completely debilitated. He takes six narcos a day just to get through a day. He would do reps on the squat with SIX plates. Your spine and joints can't physically handle that much weight.
- Dan: How do I get the book in exchange for a testimonial praising this webinar?
    - Send an email to jay@jaycampbell.com, make sure it's a quality testimonial Jay can use and publish.
- Dan: Tirzepatide should be the gateway to limitless health
    - Most doctors do not teach their patients how to lose body fat, they just prescribe the drugs and oftentimes they themselves are fat.
    - Dr. Peter Attia and other celebrity docs will act like geniuses when they say the studies show muscle loss.
- Tanis: Do you need an RX for Metformin?
    - No. You can buy it from inhousepharmacy.vu, or antiaging-systems.com. In certain states in the US, Metformin is practically free at Publix (ex. Florida, Texas).
    - Most legit health optimization docs prescribe Metformin as part of their practice. If a doctor won't write you a script for Metformin, get it from the various offshore pharmacies.
- Hao: How to get my hands on BPC-157 and TB-500?
    - Go to LimitlessLifeNootropics.com to buy it, use code JAY15 for 15% off
- Gary: You can get Metformin for $5 at the first dose at agelessrx.com
    - Great idea
- Eva: Talk about Liraglutide
    - Another GLP-1 receptor agonist, one of the early-level stage ones. Not as good as Semaglutide or Tirzepatide.
- Dan: Ipamorelin better than Semorelin?
    - Sermorelin is absolute garbage. Ipamorelin, Tesamorelin, and CJC-1295 are 10x better
- Philippe: How can I get HGH?
    - Available to members of FullyOptimizedHealth.com
- Dan: What do we do at age 70?
    - Testosterone and growth hormone

- Nate: Tesamorelin at Peptide Sciences works
    - Without bad-mouthing them, they don't do certificates of authenticity for peptides.
- Philippe: Will IGF-1 LR3 help with muscle growth?
    - It can if you get the right version.
    - Lots of conflicting information on the Internet about it.
    - Better off with testosterone, growth hormone, and quality training for building muscle.
    - Nick Andrews says it's not good because you're bypassing the body's conversion of growth hormone into IGF.
    - Huge in the bodybuilding world, but anybody who knows their stuff will recommend growth hormone over IGF.
    - Bodybuilders use shit-quality growth hormone because they can't afford the pharma-grade stuff, so they don't get the same effect. If you use Genotropin or Norditropin, you'll get amazing effects at very low dosages.
- Joseph: How to join Jay Campbell's Insider Group?
    - Click on the link, fill out your information and within an hour you'll get an automated email showing you how to log into Limitless Life Nootropics for the peptide buyers club.
- Ruthy: What if I drink a gallon of water a day? Will it affect the water retention of Ipamorelin?
    - It won't. Subcutaneous water retention from antibody buildup in peptides is different from water you're consuming for hydration.
    - With Monica, she gets water retention if she uses more than 0.75 IUs of Genotropin. Most women he knows under 140 pounds, 1 IU is the most they can do in the morning without water retention.
    - Water retention can come from your diet. If you eat a lot of carbohydrates, especially the wrong types of carbohydrates, you can hold more water than somebody who doesn't. Good rule of thumb is to stop eating carbohydrates after 6pm to avoid intracellular water buildup.
    - It's ultimately a dosage-based issue and will be individual based on your genetics.
- Jim: Would BPC-157 be beneficial for basal thumb arthritis? Should I use TB-500 instead or both?
    - Depends on acute level of arthritis, but you could inject right into the thumb joint by pinching the surrounding skin.
    - We don't know how old you are and where the arthritis comes from.
    - A lot of people in the military that parachute hundreds of times completely destroy their spine. Peptides won't do anything to rebuild your spinal integrity. It's not coming back. You'll have to live with miserable pain or have a laminectomy, and stem cells won't do anything to rebuild the cartilage or increase the spongy tissue effect in between discs to give stability and compression.
- Steve: What if I have multiple problem areas?
    - Decide what you want to address first and go from there.
- Dan: BPC-157 and TB-500 still good for old people?
    - Yes, but again it depends on the injury. Depending on how severe it is, you'll need a higher or lower dosage. But both are great as maintenance peptides for people with soft tissue strains, aches, pains (ex. Elbow/shoulder tendonitis)

- Mo: Can you inject KPV and Thymosin Alpha-1 at the same time in the same needle?
    - You can, relative to whatever you're attempting to treat.
- Dan: Pre-shoulder replacement, what dose of BPC-157?
    - You won't get any effect from a replaced shoulder by giving it BPC-157.
    - At age 70, you should not replace your shoulder. If your shoulders are gone and you have no upward flexibility or range of motion and you're in constant pain, and you want to replace your shoulder because you hope you're not in constant pain, maybe.
    - At 70, if you have any kind of invasive procedure, you have a 50% chance of death from surgical infection. The surgical steel they use to cut on you is ladled with pathogens and virulent agents that are resistant to penicillin and strong antibiotics, that's why they make you sign the legalese acknowledging you could die from postsurgical infection.
    - So no surgery to anybody older than 70 unless it's a life-or-death matter. If you want to use BPC-157 and TB-500 in lieu of that because you're not in constant pain, that's what Jay would do.
    - You could also consider stem cell treatment.
- Joseph: Berberine has many more side effects
    - Possible, relative to how shitty your lifestyle is.
    - Lots of people use glucose disposal agents like AOA, RLA, or dihydroberberine to modulate a shitty non insulin controlled diet. And you'll get side effects from that.
- Danielle: Thoughts on Rapamycin?
    - Amazing medication Jay has already written about.
    - Jay is not touching it until he is 55 or older, the reasons why are explained in the article.
- Michael: Does GHK-Cu reverse gray hair?
    - It can and it does. Worked on Jay for darkening his natural root (dark brown).
    - We never talked about this claim in the 3 years he was selling Auxano Grow V2 because it's one of the things the FDA does not like. But the effect has been observed in Jay and in other customers.
- Helen: Is there a standard dosage with Metformin?
    - If you've never used Metformin and you're a normal person who doesn't live insulin-controlled, your microbiome is inflamed.
    - As a man who's 200 pounds or more, start with 500 mg in the morning and the evening. If you're a woman, start with 250 mg in the morning and the evening.
    - If you think your microbiome is REALLY screwed up, get the extended release version that isn't as corrosive to the microbiome. Way stronger than BPC-157 taken orally. If your stomach is messed up, you have to clean out all the candida, yeast, SIBO (small intestinal bacterial overgrowth), and other junk.
    - Jay and Hunter take 1 gram of Metformin in the morning and evening. If you can reach that dosage level (500 mcg for women), you are bulletproof and your microbiome won't be infected. You are impervious to handle the drinking water of different areas of the world, such as Mexico or Latin America.
    - You also don't need probiotics.

- Danielle: What do you think about injecting GHK-Cu?
    - It's great if you can handle the burning sensation, which is absolutely intolerable for most people. Monica healed fasted with GHK-Cu injections, but it left welts around her stomach. But no burning effects with BPC-157 and TB-500.
- Steve: Two weeks ago, I tore a bicep tendon. Full function. Sounds like BPC-157 and TB-500 should be in my shopping cart.
    - Jay knows people that have tore and detached off the bone, but tearing off the bone is worse, and seen them completely returned to full range of motion.
    - Jay has seen where the tendon was fully detached, and the BPC-157 strengthened the tendon while torn off the bone. So now their vein's bigger when they flex.
    - Use the Wolverine Stack to treat that acute injury for at least four weeks.
- Evan: MOTS-C stacked with Ipamorelin?
    - Absolutely, if you have a lot of body fat to lose. But the way MOTS-C is used at its prescribed dosage, not good to combine it with Ipamorelin at the same time.
    - So use Ipamorelin in the morning and evening, and MOTS-C during the week at one time or every other day.
- Kimberly: What dose of MOTS-C is helpful for someone with chronic fatigue syndrome (CFS)?
    - CFS is one of those weird diagnoses. Usually spiritual trauma is what gives you chronic fatigue.
    - We are not physical bodies. We are energy waveform beings. So when you have CFS, you have something happening in your biofield, which you can heal through regression hypnosis therapy or just figuring out what's causing it.
    - Jay would use Tesofensine preferably, but he doesn't know your parameters (body fat, metabolic dysregulation, mitochondria optimization, etc.)
- Colette: Does Melanotan make your pigmentation look worse?
    - You're thinking of Melanotan 2, which darkens your skin to an oompa-loompa orange-brown. Stay away from that peptides, because it darkens and expands moles.
    - There's also massive nausea if you are prone to it. You can be sick with just a tiny bit. In the peptides book, Jay talks about how he used Melanotan 2 instead of Melanotan 1 by accident, was dry heaving in an airplane bathroom for 90 minutes straight.
- Aaron: There are four options for Tirzepatide on Limitless Life Nootropics
    - There's Chinese, lyophilized, and there's US-based. Get the most you can afford and stay with that because there's not that much of a difference.
- Kimberly: Is Tesofensine effective when administered as a nasal spray?
    - Who the hell offers it in a nasal spray?
    - It's an oral capsule. Jay doesn't know the answer, but he would not touch a Tesofensine nasal spray.
- Julian: How would you use LL-37 for toenail fungus?
    - Inject into the skin of the toe. Injections will always be the highest-impact delivery system.

- Yaniv: We know there are multiple causes leading to brain degeneration.
    - Almost all brain degeneration is due to inflammation at the cellular level. All disease comes from some form of inflammation. At higher body fat levels and worsening insulin sensitivity, your chemoreceptors fail.
    - The chemoreceptors in your pancreas is like a door hinge and you only have a certain amount of life in the hinge. The hinges eventually give out. So every time you eat carbs, when the hinges give out, you have a swinging shutter. You're not controlling the insulin. The insulin not being suppressed and the blood sugar spiking up and down constantly causes massive cellular inflammation, which leads to degradation and then diseases of aging.
- Salma: Thymosin Alpha-1 for maintenance, why cycle?
    - You would only cycle it for an acute immunocompromising situation, but you would definitely take a maintenance dose year-round. If you're a traveler and have access to this peptide, it's a great one to have with you.
- Karole: What about PT-141 for sex?
    - A ton of people are non-responders, Jay included.
    - For men that do respond well, they get priapism. They get a painful erection that won't subside for 4-5 hours.
    - If you're one of the lucky few who it works well for and you can have sex with multiple people, god bless you. But for most people, it does not work and it won't work the way they want it to.
- Joseph: Can I use the Wolverine stack to heal piriformis (soft tissue) that continues to flare up several times a year?
    - You heal it by using an active release massage therapist. You need to aggressively work the piriformis to release the fascial adhesions you have. Lots of great massage therapist who specialize in active release technique (ART) massages.
- Steve: For BPC-157 / TB-500 use with multiple problem areas, would you recommend doing multiple shots a day, one to each area?
    - Technically your best bet would be to go to the origin, but Jay doesn't know the degree of your injury. Some of these things won't work if you have no active cartilage left. If you're bone on bone, BPC-157 and TB-500 won't do shit.
- Scott: Do you recommend a place that could help him optimize his testosterone levels with injections or creams?
    - Join Jay's private membership group at FullyOptimizedHealth.com and he will help you get set up with an optimization physician who will make you right as rain.
- Eva: What is Monica's peptide stack? Does it work to sustain enhanced muscle and strength training?
    - Monica is hormonally optimized and uses pretty much the same stuff that Jay and Hunter do.
    - She uses a combination of testosterone, oral capsule with progesterone, low dose human growth hormone, Tesofensine. She uses BPC-157 and TB-500 when she's injured for faster healing. She takes Vitamin D3 in the morning. She also uses desiccated thyroid and Metformin.
    - Everything is the same for a woman as for a man, except for lower modulated dosages based on size.
- Joshua: Stacking Ipamorelin with IGF-1 for muscle gain?

    - Growth hormone and testosterone will be better.
    - If you're not hormonally optimized and you're trying to build muscle with growth hormone agents, it won't work.
    - Testosterone is the base androgen. Growth hormone is synergistic when used in combination with testosterone.
    - If you use testosterone with Ipamorelin and IGF-1, you'll get better muscle gain than either one in isolation.
    - But testosterone is always the base anabolic cascade. You also get a spike of dihydrotestosterone, which is more anabolic than testosterone.
- Evan: Any suggestions on doses for chronic inflammation?
    - Metformin and changing your lifestyle. Chronic inflammation comes from shitty diet and stress, poor sleep, too much sugar and alcohol.
    - BPC-157 and TB-500 won't clean up inflammation. They'll clean up origin injuries, soft tissue injuries, sprains. But don't listen to people who say both peptides will clean up inflammation. Inflammation is treated by cleansing your microbiome with Metformin and changing your lifestyle.
- Wade: If my hormones are not optimized, what steps should I take before doing a fat loss or muscle gain cycle with peptides?
    - Get your blood work done.
    - If you're working with a testosterone deficiency, understand free testosterone before you do total testosterone.
    - Work with a doctor that can hormonally optimize you. Easiest way to find one is to join Jay's private membership group and get a referral from Jay to a doctor.
- Joshua: Best immune support peptide stack to have on deck for the next pandemic?
    - Thymosin Alpha-1. If you want to be anal-retentive, LL-37 and VIP as well.
    - Supplements to have would be high-dose melatonin, NAC (500 mg or even 1 g capsules)
- Danielle: Can you gain muscle with Ipamorelin at maintenance calories?
    - You cannot gain muscle at maintenance caloric intake, period. There are no magic drugs or supplements. There's no steroids. Muscle comes form a caloric surplus and positive muscular failure training.
    - If you are 22 years old and you have great genetics, and you start lifting weights while eating at maintenance, you'll build muscle. This is the newbie effect.
    - But for people who are hormonally optimized and have been lifting for years, you will not build muscle without an ample caloric intake.
- Evan: Do oral peptides need to be refrigerated or does that only pertain to injectables?
    - You don't need to put oral peptides in refrigeration. But most oral peptides are worthless and many doctors will give people oral peptides that are useless.
- Robert: Your book recommends 250 micrograms twice per day of BPC-157. I have tennis elbow in both left and right arms. So inject 1st dose (morning) in left arm and then 2nd (night) in right arm?
    - No, you can inject both arms at the same time. Again, I don't know the level acute level of your tendonitis, but if it's higher, follow the Wolverine Stack dosages for four weeks.

- Ted: How much reconstitution/dosage with Epitalon and Thymalin?
    - The amount of reconstitution solution or bacteriostatic water that you put in a peptide vial does not matter. What matters is the dosage. By using the peptide calculator rule of thumb that I gave out last week, which I highly recommend reading is two milligram vial, half a CC of bacterial static water. Two to five milligrams, one CC. And over six to 10 milligrams or higher, between two and three or four CCs of waters.
    - It really just comes down to your psychological aspect of how much water you want to see being injected in your body. But it doesn't matter. You can figure it out with way less water or way more water. It's just, what is your dosage and how much is in the vial?
    - It's pretty simple when you really understand the math. And again, that's why you use the peptide calculator.
- Ted: How do I get the PDF copy?
    - Send Jay a proof of receipt that you bought it off of Amazon.
    - NOTE: For the Kindle version, if you're on iOS, it does not allow the links to format. It's an Amazon issue. It's a known issue. It has nothing to do with my book or the formatting of the book or the links that we provided. It's an Amazon, Apple iOS issue. They don't play nice together. It is what it is.
- Layla: You didn't cover AOD-9604 for fat loss?
    - It's in the peptides book.
    - Jay does not like it, has used it before in combination with Semaglutide.
    - Most people don't notice much effect and most clinicians don't use it anymore because there's way more effective compounds.
    - If anything, Jay has noticed antibody buildup happening really fast.
- Steve: Is the mTOR inhibition of Metformin overstated?
    - Yes. If you're hormonally optimized or using peptides, you will notice nothing. And if you're not and you use Metformin, any effect is transient in nature. It's not going to prevent you from building muscle. Most of the knowledgeable people in the industry who use Metformin, they use it for the life extension benefits.
    - Unless you're an elite power and strong man athlete who wants to maximize their force production at competition, you would just come off of it for two weeks before your meet. But then you'd go right back on it because of all the other things it does.
- Ted: Does Metformin stacked with Berberine provide maximum benefit?
    - Sean Wells, a big dihydroberberine guy, now recommends combining the two.
    - The reason for doing so is that Berberine is a more potent glucose disposal agent, which means that when you take it after a big carb meal, it helps excrete the sugar in your urine. You piss it out.
- Danielle: If you're hormonally optimized and not seeing results from peptide use, could that mean you need a higher dose?
    - There's a lot of different contiguous factors that could prevent you from seeing peptide benefit. You could be using fake peptides, you could be not knowing or noticing what you're wanting to notice and just misreading it. Jay would need more granular info from you to really figure that out.
- Jason: When are stem cells warranted?

    - When you're aging and you have different issues. someone 50 and older who wants to do a stem cell anti-aging cocktail once a year, or wants to get a P shot or an O shot for enhanced sexual functioning... those are good.
    - If you want to do them in combination with PRP for hair regrowth or with an angiogenic peptide, that can also be good. Again, it just depends on your issues. Stem cells are really good for people that have autoimmune disorders or dysregulation. It's a difficult thing to answer.
- Tina: Anything for herniated discs?
    - Rest, stretching, rehabilitation. Depending on the level of the compression, if you're bone on bone, there's nothing.
- Scott: Anything that can be used to help dissolve a lipoma?
    - Jay actually just had a lipoma removed from his back. But it turned out to be a cyst and not a lipoma. But no, lipomas have to be surgically removed for sure. That's the only way you can get them out. Make sure you're using a surgeon that knows what they're doing.
- Buck: Should low dose HGH be cycled similar to other peptides?
    - Depends on your age and your levels of IGF-1 and your dosage. If using a super low dosage and you're 50 and older, you probably don't need to come off of it, but it's always prudent to just take Saturday and Sunday off like Hunter and Jay do. But again, it's up to you and answer those other questions.
- Paul: Got much better results with Libidon and Vestigen combo in a 30-day dosage.
    - He's talking about peptide bioregulators. Once we get those into mainstream consciousness, it's going to be a game changer. And then you're going to be able to combine bioregulators with peptides.
    - And then, the big next frontier beyond bioregulators are injectable bio regulators. Not the oral capsules, which is what most people are going to take because they're too afraid to inject themselves. But the injectable bio regulators are better than injectable peptides. Lots of cool shit coming soon.
- Mo: Based on my genes, I can't use Metformin. What's the next best thing to live insulin controlled while being able to grow and build muscle?
    - No carbs after six o'clock. Eat clean carbohydrates. Don't eat sugars, don't eat high fructose corn syrups or simple sugars.. You could probably look into taking dihydroberberine maybe.
- Salm: Can your optimization doc help people in Canada?
    - Jay can't help people in Canada because you can't get medications pulled into Canada. Every now and then they slip through, but you guys are in a communist country. Forget it. Canada's customs is a nightmare. You got to find a doc in Canada, but I still don't have a doc in the north. They're really backward up there.
- Kevin: There's a better bioavailable form of NAC called NAC ethyl ester (NACET).
    - A stronger, more potent version. More bioavailable and efficacious than normal NAC.
- Kevin: 5-Amino 1MQ only comes as an oral capsule
    - You could inject it, but Jay doesn't recommend it as it's not as stable in injectable form. It's absorbed faster and it doesn't give the same effect.

- Anthony: What is shelf life of bacteriostatic water and should I store it unused in a refrigerator?
    - Put it in a refrigerator.
    - It's just benzyl alcohol. Even if it degrades a little bit or destabilizes a little bit, as long as the refrigerator, you can use it forever till you run out. It will not become contaminated.
- Bryan: If Big Pharma shuts down peptides, we will still be able to buy them through Limitless Life Nootropics?
    - Peptides and bioregulators are not going away. If the demons want to take them down and go after us, we'll create an underground economy. There will always be a supply when there is a demand. And right now, peptides are the most in-demand healing technology on the planet.
    - We'll eventually have an article talking about improving your survival rate from gene therapy, but we'll need to be very cautious about how we talk about it.
- Ted: SIBO can be caused by hospital stays in environmental germs
    - You can die from being in a hospital. It's one of the most contaminated environments on the planet. You're dealing with sick people and streptococcus.
    - There's a new form of virulent pathogen that's resistant to the antibiotics that are on all the surgical steel used in hospitals.
    - Avoid the hospital. Jay would literally not go to a hospital if he was dying. He would rather go to a veterinarian and have them surgically take shrapnel out of his body.
    - Not to mention the spiritual aura of a hospital, where vibration is so low because everyone is in fear.
- Joe: Does colloidal nascent iodine work similar to desiccated thyroid?
    - It's not the same, but it's your next best thing if you can't get desiccated thyroid.
- Ted: Great podcast Jay did with Phil Micans!
    - Phil announced a partnership with the Jay Campbell brand. We will be doing a deep dive article on every single peptide bioregulator in existence.
    - Make sure to watch the podcast and read our most recent article on Ventfort, the blood vessel bioregulator for improving your vascular functioning.
- Robert: Best injectable for inflammation?
    - None. Metformin and changing your lifestyle are the answers.
- Michael: Recommendation for where to buy bacteriostatic water besides bacteriostaticwater.com, which bends you over?
    - You can buy it anywhere. Limitless Life Nootropics has Reconstitution Solution.