Video Course: Hunger After Bariatric Surgery

**Script One**, Introduction to the Course

When I was newly married, I went on a family trip with my husband’s side of the family. I always knew the meal times were a little off when I was with them, so I packed extra protein bars, just in case. On this particular trip, we were in Park City Utah and on the last day of the trip, the family decided we should go see the Salt Lakes while we were there. We would do a little hiking, check out the visitor’s center and grab lunch at in and out burger.

The thing you should know about the Wagner’s is that things don’t tend to run on a tight schedule. Lunch is a very loose term. The trouble with this particular day was multi-faceted…I had run out of protein bars, the time at the Salt Lakes was an all day endeavor, not just a morning activity and the Salt Lakes were actually very far away from an In and Out Burger. So, our “lunch” was at 4:30pm. I was so hungry I ordered a double cheeseburger, French fries and a milkshake. I could not eat it fast enough!

Hunger is a deeply biological process in our body. We have hunger hormones that trigger our brain that we must eat. In this video course we are going to talk about why hunger happens, what changes after bariatric surgery and how you can manage your hunger. Because I believe, if you can manage your hunger, you can manage your weight. Let’s get started.

**Script Two**, Hungry Hungry Hormones

You might have heard about Ghrelin in your early days of learning about surgery. Many surgeons like to talk about how surgery can really reduce your ghrelin. More on that in a bit but let’s about what it is along with a couple other key hormones.

Ever since I was a student, I would remember ghrelin because it sounds like GREMLIN and it’s really fitting. Ghrelin is the hunger hormone and it’s what sends the signal to our brain that we must eat. I can just picture little gremlins nagging at me to eat, eat, eat.

Ghrelin is released from cells in the stomach and rises during times of fasting. The levels then drop after eating. It is also a short acting hormone which means it builds on itself. It will not go away, until you have eaten and it does get more intense leading you to order a double cheeseburger, fries and a milkshake. Which leads me to a quick point about hanger.

Some of the same areas of the brain are triggered when you are hungry and are the same areas that are triggered when you are irritated. There is a connection between hunger and aggression…this mean hanger is real! We laugh about it but it’s a very human experience and it’s why we can all relate to it.

Let’s keep going and talk about another interesting hormone. This one is called Leptin. One thing I find to be mind blowing is that leptin was the very first hormone related to appetite that was discovered and you know when that was? 1994. Seriously! The first hormone discovered related to our appetites was found in the mid 90s. Doesn’t that paint a picture for the point that we are still learning so much? The 90s were also the time of low-fat diets, Snack well cookies and the thigh master. I find this so validating. Of course, we are still learning about how our bodies, metabolism and appetite work. If they were discovering it in the 90’s we sure weren’t learning about these things in school!

Anyway, back to what leptin does. In a way, it’s an opposite hormone to ghrelin. If ghrelin makes you feel hungry, leptin is what makes you feel not hungry. It is the “satiety” hormone or what helps you feel satiated or satisfied. Leptin is produced by fat cells and travels through the bloodstream to the brain to let the body know how much fat cells it has. It’s like a reporting system, hello brain it’s me leptin this is how much fat you have. High levels of leptin will tell your brain that you have plenty of fat stored. Low levels of leptin will tell your brain it has low levels of fat stored and that you need to eat. It might seem that someone with obesity would have low levels of leptin and should not feel hungry, but we know that isn’t true? This is because with excess weight, the body can become leptin resistant. So the fat cells are making the leptin but the brain is not seeing it. When you consider the power of ghrelin driving hunger plus leptin resistance, it’s easier to see why obesity is such a difficult disease. How can you stick to a “diet plan” when you are battling hungry, hungry hormones? We’ll talk in the next lesson about what surgery does in the equation.

One more hormone I wanted to add is not actually a hormone but is a neurotransmitter. Both hormones and neurotransmitters are a type of chemical signaling. This final chemical signaling agent is called dopamine and it’s a powerful force in our brains. Dopamine plays a big role in how we feel pleasure. This is a good thing! Without dopamine we would not feel enjoyment. It’s a big part of what makes us find things interesting like someone who really loves golf. Dopamine affects many parts of our behavior and our mood. I wanted to include it in a conversation about hunger hormones because it IS interconnected with our desire to eat. It activates pleasure centers in the brain. Eating increasing dopamine. We experience pleasure, that is the reward which leads to wanting more. Many studies show more dopamine is released with high fat and high sugar foods. It’s what makes them extra addictive.

Maybe all this makes you feel a little doomed. If we have ghrelin telling us to eat, leptin resistance with extra weight that does not tell the brain to be satisfied and a powerful neurotransmitter that makes high sugar, high fat foods addictive to the brain, then what exactly is the good news here? Well for one, we are going to talk about how surgery changes this and for two, we have ways to manage all of these things but I do want to paint the picture that obesity and weight management is more than a battle of willpower. If you tend to think “I’m not that disciplined, I just can’t stick with it, I like food too much or I just sabotage myself” I encourage you to look at it from a new lens. It’s not about pushing away from the table and going for your thigh master. Knowledge is power so let’s keep talking.

**Script Three,** How Surgery Changes Things (Sleeve)

Great news, surgery changes a lot of things in the hunger equation. It does not eliminate hunger and the need for food, contrary to what you might have heard about surgery, but it does set you up for success in managing your hunger more easily than before.

With Gastric Sleeve surgery, approximately 70% of the stomach is removed including the fundus of the stomach or the curved part of the stomach. This curved part of the stomach is where ghrelin is produced. Since ghrelin is the hunger hormone, the sleeve is promoted as both portion restricting and greatly reducing hunger. Studies have shown ghrelin is reduced by as much as 70% and that can last more than 24 months, so note, not lifelong because the body does change the regulation of ghrelin production. But more good news is that because ghrelin and leptin play in harmony together, it can help with THE leptin resistance loop hole. Before surgery, leptin resistance would make the brain trigger more ghrelin so that you would eat. If you don’t have as much ghrelin, it cannot be triggered to eat more. And as weight continues to fall off, leptin resistance begins to improve allowing the body’s natural process to get back on track.

But what if this has not been your experience? Some patients hear all about how sleeve patients are never hungry but that has not been true for them! Or maybe your hunger was controlled for a while but the further you have gotten since surgery, your hunger has crept back in. If true that’s you, I am sorry, it’s so disappointing! One thing I can say is that there is no such thing as a textbook case in real life. Studies and reports may show things “tend to be this” but we all know it’s not always real life, very rarely is someone truly textbook. A few words of encouragement here are first, don’t compare yourself to others. It reminds me of becoming a mom and my daughter cried all the time and slept terribly but our friends had a baby a week later and their baby was relaxed, easy going and slept for long stretches. It did me no good to think about how their baby was sleeping because I was holding MY baby, not theirs. Plus this was only the beginning of the journey of parenting. They would have their battles, and we would have ours. Just because someone isn’t very hungry early out of surgery doesn’t mean their journey will be easy forever. My point is, we all have our own journeys and we learn and get stronger for walking out our own journey. The other encouragement I have for you is that your hunger can still be managed. We will talk about what you can do to manage your hunger but for this video I wanted to explain why Gastric Sleeve is considered a metabolic surgery. It is about eating less food, but it’s more than that. There is something about cutting on the stomach that greatly improves your metabolism and regulates blood sugars. Surgeons are recommending bariatric surgery for diabetes treatment. Even if you feel hungry after your surgery, it does not mean your surgery didn’t work. There is far more unseen improvement going on in your body than you may feel or know. It does require the hard work on your part to allow the unseen improvements to take hold so you can begin to see their lasting effects. Don’t let short term discouragement get the better of you! I’ve always felt like surgery is hitting a giant reset button on metabolism and hormones, and what you do in the first year out of surgery to make healthy habits will set you up very well for long-term weight management.

If you are within a year since surgery, stick as closely as you can to your program. Get the water, the vitamins, the consistent meal patterns and really focus on fighting against snacks you don’t need and carbs that make you hungry.

If it’s been more than a year since surgery, don’t fret. The honeymoon period may be on it’s way out or long gone, but healthy habits are always helpful and the surgical tool still exists. It’s very hard to stretch out your stomach (it’s three layers of muscle) so getting back to basics will still allow you to tap into the power of your surgery. Keep watching for more practical information on how you can control your hunger.

**Script Four**, How Surgery Changes Things (Bypass)

Great news, surgery changes a lot of things in the hunger equation. It does not eliminate hunger and the need for food, contrary to what you might have heard about surgery, but it does set you up for success in managing your hunger more easily than before.

The two main mechanisms that provide weight loss after Gastric bypass is portion restriction and malabsorption. The first step the surgeon does is make the stomach smaller. The second step is to bypass parts of the small intestine which is the malabsorptive piece of the equation. So, you cannot eat as much after a bypass surgery and you do not absorb all of the calories that you eat. More good news is research has shown circulated levels of ghrelin decline after the bypass which means less feelings of hunger. It may be a shorter term decline in ghrelin as the body does change the regulation of ghrelin production

But what if less hunger has not been your experience? Some patients hear all about how bypass patients are never hungry or can only eat a few bites, but that has not been true for them! Or maybe your hunger was controlled for a while but the further you have gotten since surgery, your hunger has crept back in. If true that’s you, I am sorry, it’s so disappointing! One thing I can say is that there is no such thing as a textbook case in real life. Studies and reports may show things “tend to be this” but we all know it’s not always real life, very rarely is someone truly textbook. A few words of encouragement here are first, don’t compare yourself to others. It reminds me of becoming a mom and my daughter cried all the time and slept terribly but our friends had a baby a week later and their baby was relaxed, easy going and slept for long stretches. It did me no good to think about how their baby was sleeping because I was holding MY baby, not theirs. Plus this was only the beginning of the journey of parenting. They would have their battles, and we would have ours. Just because someone isn’t very hungry early out of surgery doesn’t mean their journey will be easy forever. My point is, we all have our own journeys and we learn and get stronger for walking out our own journey. The other encouragement I have for you is that your hunger can still be managed. We will talk about what you can do to manage your hunger but for this video I wanted to explain why Gastric Bypass is considered a metabolic surgery. It is about eating less food, but it’s more than that. There is something about cutting on the stomach that greatly improves your metabolism and regulates blood sugars. Surgeons are recommending bariatric surgery for diabetes treatment. Even if you feel hungry after your surgery, it does not mean your surgery didn’t work. There is far more unseen improvement going on in your body than you may feel or know. It does require the hard work on your part to allow the unseen improvements to take hold so you can begin to see their lasting effects. Don’t let short term discouragement get the better of you! I’ve always felt like surgery is hitting a giant reset button on metabolism and hormones, and what you do in the first year out of surgery to make healthy habits will set you up very well for long-term weight management.

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**Script Five**, Genetics at Play

I have always felt like a hungry person. Why was everyone else able to hold off until 4:30 that day in Utah, while I felt like I was wasting away? I was the first person bolting through the door and rushing the counter to order a double cheeseburger. Do you ever wonder, what is the deal? Is it really all genetics? I find this particular information fascinating and confusing. I want to really hit the high level overview that there are brilliant geneticists that study one specific gene variant to determine what effect that might have on someone. Genetics can affect things like dopamine and how other brain chemicals work. Someone’s genetic makeup may give them fewer dopamine receptors which can lead to a higher risk for addictive behaviors such as drugs, alcohol or food. In fact, this is why bariatric practitioners need to deep dive into hard conversations about transfer addictions as we have now found patients after Gastric Bypass and Gastric Sleeve have a higher risk of struggling with alcoholism. Having fewer dopamine receptors is just one of many possible genetic variants that could impact weight. One gene that is being studied specific to obesity is called the fat-mass and obesity-associated gene. In a Swedish study published in 2014, they found those who had one variant of the gene had higher levels of ghrelin and lower levels of leptin comparted to those without the variant. My point here is once again, your struggles with weight are more than just your lack of willpower. Does your genetic makeup mean you’ve been hungrier than others your whole life? I don’t actually know but I find it empowering to remember that biology is complex and it’s not just all our fault or even our parents fault! But let me say this, genetics is not always destiny. Your home environment, the support you have in your life, your ability to manage stress…it can all overcome genetics. Plus, remember! Bariatric surgery is metabolic surgery. It does reduce ghrelin and help your body improve against leptin resistance. Your surgical tool is your best weapon at hunger control. Review your environment and consider how you can better set yourself up for success. It’s time to move into our next lessons that get into the specific habits and behaviors you can focus on to see a big improvement in your hunger control.

**Script Six,** Water time, Meal time

Let’s dig in to some of the specifics for habits that might cause hunger after surgery. The biggest thing we need to talk about is water. Not just how much you should be drinking, but the times of day you should be drinking water, and when you should not be.

First let’s talk about just how powerful water is. I feel like we hear all the time to drink more water that it almost loses it’s value. We think, okay yes I have heard that tip before, but what other tips do you have? But truly, it’s not just a take it or leave it health tip, it’s integral to controlling hunger and maintaining your energy.

You see, the area in the brain that determines hunger is the same area that determines thirst. When your body does not get enough water, it gives you mixed signals about hunger. So if you have heard to drink a glass of water before you eat something, it is not just a little tip. It’s to determine if your body is in need of water more than it needs food. If you are hungry and you feel like you shouldn’t be, think about how much water you’ve been drinking lately. Also how much caffeine you’ve been having. Caffeine is a diuretic which means it causes you to urinate more frequently which eliminates more fluid from the body. Avid coffee drinkers may have more hunger later in the day if they have not been replenishing with water. I recommend 64 to 96 ounces of hydrating beverages a day. What’s considered a hydrating beverage? A liquid that is not carbonated, not caffeinated and less than 15 calories per 8 ounce serving. If that has you wondering about coffee and tea, I do allow 24 ounces a day of caffeinated drinks so long as water goals are being met outside of that.

Each program is different on what is counted as water, how much you should have and when you should drink. These are my thoughts but I certainly understand you may have heard some things differently. For example, you may have heard to stop drinking before your meals or that you can drink 30 minutes after your meal. My approach has always been that you can drink up until your first bite but once your meal begins, put the beverages away. Avoid drinking while you eat your meal and set a timer for at least 45 minutes if not an hour after your meal. So instead of 30 minutes before and 30 minutes after a meal, I put the whole 60 minutes at the end of the meal. But set that timer or check the clock to know exactly when you can start drinking water again. The reason for waiting longer after a meal? Liquid will move food through your postop pouch more quickly leaving you hungry faster. It’s all about hunger control.

A quick note here is that I recommend a meal pattern of breakfast, lunch and dinner with water in between your meals and not five to six small meals a day. For patients who have not had surgery, a small frequent eating pattern can be helpful for metabolism. However, for a bariatric patient that is time highly needed to stay hydrated and the surgery itself is a metabolic surgery which in itself is more powerful than small frequent meals. Logistically speaking I would start water when you wake up and keep it on hand except for the three times a day you are eating or have just eaten.

Drinking with meals or too soon after the meal will increase the transit time of your food leaving your stomach. This is not true before surgery because you had a small muscle at the bottom of your stomach that would only open when it was time for the food to move onward to the small intestine. However, after a weight loss surgery, gastric emptying is faster. For a bypass patient, that small muscle that kept food in your stomach has been bypassed and for a gastric sleeve patient, part of the function of that muscle may have been compromised. So either way we know that gastric emptying, or how fast food moves through your stomach is faster after weight loss surgery. We’ll talk about what that means for your food choices in the next video but the take home message in this lesson is to remember the power of staying hydrated so your brain can truly identify if you are hungry or not AND to maintain a daily structure for water times and meal times.

**Script Seven** Protein…but texture matters

Bariatric surgery patients have all been trained to keep their eyes on protein. In fact, when I asked patients what their number one priority is each day, the answer is usually protein. My answer is actually water because dehydration comes on much faster than a protein deficiency! But their answer tells me they have been taught to value protein.

And for good reason! Protein is a multi-faceted tool when it comes to managing hunger. I mentioned in our second lesson that eating protein drops ghrelin after meals, those nasty hungry gremlins.

I have a video course specific to the do’s and don’ts of protein but couldn’t have a course focused on hunger control without talking about protein and in particular, what you need to know about the different textures of protein. In my mind, there are three categories of protein textures. Liquid protein, soft protein and solid protein. Many patients think of pumping up their protein by drinking more protein shakes, which is the liquid protein category. While liquid protein is incredibly helpful in the healing stages after surgery, it is not as helpful in controlling hunger. For the same reason drinking with meals will cause hunger more quickly, drinking a protein shake is likely to do the same. You can also consume more of something in a liquid form. If you were to drink 20 grams of protein in a shake, you might be able to get all that in if you kept sipping on it. 20 grams of protein is the equivalent of a little less than 3 ounces of steak. Maybe you can eat three ounces of steak I don’t know, but the point is that you can drink more than you can eat so a protein shake leads to consuming more and being hungry sooner. The next texture category is soft protein foods. These soft protein foods, again, can be really helpful in the early stages after surgery as you are slowly introducing more textures to your new pouch. However, if a patient were to stick mostly to these foods beyond the early months of surgery, they may experience issues with hunger because the softer texture means that food is leaving them more quickly. Again the same is true you can eat more of a soft texture than you can a solid texture so you eat more chicken salad than you can chicken breast and you are hungry faster.

The main reason why patients do get hung up on these softer protein foods is that they go down more easily. Patients feel they can’t each a chicken breast because it’s too dry and heavy and they have to have it in a chicken salad. And if this goes on for a really long time patients get very limited in the foods they eat and have aversions to healthy protein foods they wish they could eat but they just mentally cant.

The issue here lies in the bite sizes and speed of eating. When you take too large of a bite of a solid protein, it hits the opening of your pouch like a brick and can feel really uncomfortable. Patient feel all sorts of unpleasant feelings and associate it with the food they ate instead of the manner in which they ate it. They notice they can eat flakey fish and Greek yogurt better so they just assume their pouch can’t tolerate the heavy meats.

There may be certain foods that don’t agree with your pouch if its just one meat in particular, but if a patient is ruling out all solid proteins it’s more likely eating behaviors than food issues. The best texture category for hunger control is a lean, solid protein.

You do have to take small bites, eat slowly and stop at the first sign of fullness but if you pay attention to how to eat the solid protein most comfortably, you will be full on a small amount and stay full longer…especially when you don’t drink for an hour. I do like the ratio of 2:1 protein to vegetable so keep variety in your meats with seasonings and spices and veggies but be mindful you don’t end up with more vegetables than protein which will also lead you to feeling hungry sooner.

In our next lesson we will talk about what I call premature fullness where you fill up after a few bites but feel hungry soon after.

**Script Eight** Full Fast, Hungry Fast

Protein takes a long time to digest, it drops your ghrelin and being aware of the differences in texture can really help you manage your hunger.

But let’s talk about the times you get full after just a couple bites and feel hungry just an hour or two later. This can cause a grazing pattern for patients because they just can’t eat more at their meal time but also feel hungry all day. What is the deal here?

This is a symptom of what I call premature fullness. Feeling fully prematurely often comes from eating too fast or too large of bites. You see, your stomach is three layers of muscle and when that muscle stretches a little, it will signal fullness to your brain. After surgery, you have a smaller opening into your small pouch and having a bite of chicken that was a little too large can cause that stretching experience on the stomach which signals you to stop eating. Same is true for having your bites back to back too quickly. These are incredibly hard habits to break especially if you are having a stressful, busy day at work and other things are on your mind to get back to! Years of habit tell you to eat the way you always have! But it really does matter to adopt the new habits that your new stomach require. Cut bites before you start eating in case you get distracted. If you pack your lunch for work you might even cut it all up the night before so you are ready! An ideal bite size is about a black bean in size or even your pinkie fingernail for a visual you always have on hand. Put your fork down in between your bites and ask yourself between each one if you feel satisfied or if you need to eat more. As you do this, you’ll notice you can eat more at your meal than just a couple bites and I don’t want you to be scared about that. This is a good thing because its far better to fill up on your quality meal at the correct meal time than feel hungry too soon after and end up grazing all day. In this lesson I wanted to cover why some eating behaviors can affect your hunger but in our next lesson I want to cover why some foods make you feel hungrier. I hope these lessons are helping you see that there is a lot of biology going on when it comes to hunger, but there are some practical things you can do to feel in control of it all.

**Script Nine,**  Why some foods make you hungrier

We have young kids and a Saturday morning donut run is one of my husbands favorite things but he always says after he eats one, he feels hungrier than when he started!

Why do some foods really drive up hunger? Isn’t the point of eating something to stop feeling hungry? What is going on that your brain is telling you otherwise?

Foods that are high in carbohydrates do drive up hunger. Even just looking at them and smelling them, refined carbs stimulate appetite. If you’ve gotten off track with drinking water or you are late for eating a meal then you are face to face with some French fries or a brownie…things are going to be hard for you. Your brain is wired to tell you to eat fast fuel if it’s been too long since you ate. Refined carbs are fast fuel because they are absorbed quickly into the bloodstream. The first key is to stay on top of hunger so you can better face those tempting moments. Not only do carbs stimulate your appetite, they also leave you hungry sooner because they do absorb quickly leaving your GI system to tell you its empy. It also swings blood sugars up and down so your blood sugars go downward a little and your brain tells you that you need more carbs quickly for blood sugar control. Plus that lovely pleasure hormone we call dopamine is what tells you it feels good to eat carbs so it’s asking you for more too. You are not weak for really loving high carb foods, there is a lot of biology going on because in the past it would have helped you survive should there be a famine or lack of food. In a world when food is available, we don’t get to the point of needing the stores on our body but we still have the triggers of survival in our biology. It takes about 3 to 5 days for our body to adjust to eating less carbohydrates so these are the days of feeling hungry, maybe headaches, shakiness, irritability just saying. If you are getting your starches and sweets out of your diet focus on tons of water, eat a protein snack if you need and be encouraged that your hunger will get more manageable soon so you won’t need all the extra protein forever. But protein can be key during this time because remember, studies show ghrelin drops after eating protein. Choose a food based protein snack like a cheese stick or boiled egg over a protein shake because of the liquid texture like we talked about in our lesson on textures.

You might be wondering about complex carbs versus simple carbs. Yes simple carbs are absorbed even faster so that donut my husband ate really did make him hungrier than when he started. Complex carbs do bring in some fiber but in my opinion, it’s better to get fiber for vegetables and a little fruit than in high carb food choices. Even brown rice and whole grain pasta will drive my hunger up so I prefer zucchini noodles and cauliflower rice. Start your day with hydrating fluids and a lean protein breakfast. Focus on fluids in between your meals, plan your lunch and dinner for a lean protein and fresh vegetables. A little fruit with one of your meals is just fine and then you do your very best to manage your hunger will all these tools we’ve talked about. And if you do find yourself wanting to enjoy a carby food, pair it with a protein so it slows down the absorption of the sugar into your body.

Thank you for watching this hunger and bariatric surgery course! I hope it’s been helpful on your journey. And oh yes, I have one more bonus video for you to enjoy.

**Bonus Video**, Why Do Stomachs Growl?

If you have wondered why your stomach makes noise and what that means, this bonus lesson is for you. Let’s talk about something I find fascinating called the migrating motor complex.

As a basic review, food is chewed in the mouth, goes down the esophagus and enters the stomach where it churns and digests. Then food proceeds to the small intestine, where nutrients are primarily absorbed and then to the large intestine and then out in stools.

The stomach and intestines is made of smooth muscle made to push food through. Moving food through the GI tract is called peristalsis. Muscle squeezes above the food to keep it moving. Some of these sounds are heard from outside our body, we call it growing or rumbling. The noises don’t always mean the stomach is empty. We can hear the noises when food is being moved along, however, it is true we can usually hear them louder when the GI system is empty.

Why do we hear activity when the stomach is empty? That is called the Migrating Motor Complex. This usually happens when the stomach and intestine has been empty for 2 hours. There is an electrical pulse trigged and peristalsis begins again more as a cleansing process to clear out any leftover food, mucus or bacteria in the stomach or intestines. The MMC complex is trigger every 90 to 120 minutes until the next meal is eaten. It tends to quiet down when we sleep but triggers again when we wake, which is why we often have grumbling tummies in the morning. There is a key hormone called motilin that rises about every 90 minutes and triggers the smooth muscle to begin contracting for this cleansing like process.

There have not been studies that show a cyclical release of ghrelin that coincides with the Migrating Motor Complex, so those are not necessarily connected. Your tummy grumbling or making noises does not necessarily mean it’s time to eat, though it could.

My stomach was for sure growling as we hiked around the Salt Lakes. But I also didn’t need it to growl for me to know I wanted food. This is just a little bonus video on a fascinating feature of our bodies and yet another reminder that there is more going on than we know. Thanks again for watching this series on Hunger and Bariatric Surgery! Remember to connect with myself or other members for more questions or conversation about what you’ve learned.

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