

SHAWN STEVENSON

MODULE 1

EAT SMARTER COURSE WORKBOOK



Welcome to Your Eat Smarter Workbook

In this course, you'll discover what to eat to boost your metabolism, lose fat and gain energy. Use this workbook to actively follow along with the course and apply the lessons to your own life!

Each section of this workbook corresponds with the videos within the course. Filling out the self-reflection questions will help you better understand and remember the course contents, then apply the lessons to your habits and daily goals.

Ready? Let's get started!

Module #1.1: Let's Talk About Burning Fat

When humans evolved, food took a lot more effort to obtain. You couldn't go to the 7/11 and buy a hot dog, you had to go foraging or hunting to find calories. So, our bodies evolved to hold onto calories in the form of fat, to keep us going on days when we didn't have a successful hunt.

That's why fat can be kind of "clingy" - it's trying to keep us safe. Our bodies aren't at war against us, it's our lifestyles that are the problem.

This is why starving yourself to lose fat doesn't work. You'll only make your fat stick around more, because your body will think you're short of food.

When you gain weight, you keep the same number of fat cells, they just fill with more contents. Once you reach adulthood, the number of fat cells you have more or less stays the same. When we gain weight, the fat cells enlarge in size. Your other cells and your internal organs stay the same size.

There are several different types of fat cells in your body, including:

Subcutaneous Fat

"Subcutaneous" comes from the Latin "sub" meaning "under" and "cutis" meaning "skin". Therefore, this is the fat right under your skin, that you can pinch with your fingernails.

Visceral Fat

This is the fat deep within your body that surrounds your internal organs. This type of fat is more likely to raise your risk for serious medical issues, including stroke, type 2 diabetes, heart disease and Alzheimers.

Brown Fat

This is a special type of fat that produces heat and activates when you get cold. Babies are born with a lot of brown fat, as it helps to keep them warm.

When it comes down to burning fat, one of the most important things you'll need to remember is that the food energy your body consumes is like money.

The energy coming in from the food you eat every day is like cash, it's the easiest for your body to use. When your body has an abundance of this "cash", it starts storing the excess in a "Certificate of Deposit" (aka. Your fat cells.) These long term "savings bonds" don't often get touched if cash is on hand to use.

With smart planning and habits, you can use your resources in a more efficient way. In this course, you'll learn how to manage your "fat finances" better - in a way that is sustainable over the long term.

Self Reflection Questions

How did you feel about your body fat prior to today? What emotions best described your relationship to your body fat?

Have your thoughts and feelings about your body fat changed based on what you've learned in this section? If so, how?

How can these insights help you to better manage your own metabolism or mindset around body fat?

Module #1.1 Notes: Use this space to add notes for yourself about the topics covered in this module.

Module #1.2: How Fat Loss Actually Works

In this video, you'll learn about how fat metabolism actually works. To understand this, we'll imagine your fat cells as a movie theater, and the enzymes within them as employees.

Each of the "employees" at this movie theater has an important role to fulfill at Fat Cell Cinema. For example, first we have Hormone Sensitive Lipase (HSL). This employee's job is to be the usher who gets stored fats out of their seats and shows them the way out of the theater.

HSL mobilizes stored fats, and it can be triggered by aerobic exercise. We want these enzymes clocked in and working in order to lose weight! They are one of our most valuable employees.

Then there's Lipoprotein Lipase. They are the usher who gets the stored fat into their seats. Remember the different types of fat from the last module? This usher decides where to "seat" the fat, whether it becomes subcutaneous, visceral, etc.

Insulin and Glucagon are the two "brothers" who manage the movie theater. In other words, they are the Pancreas hormones that counterbalance each other to stabilize blood glucose. Glucagon keeps blood glucose from dropping too low, Insulin keeps blood glucose from rising too high.

There are a couple of processes going on here to be aware of: Beta Oxidation and Lipolysis. What's the difference? Lipolysis is when the fat cell releases its energy and beta oxidation is when that energy is actually burned for fuel. The majority of the energy (around 70%!) released from the fat cells is reabsorbed by the body, rather than being burned for fuel.

And of course, you can never forget about your mitochondria! They are the "powerhouse" of the cell, turning energy from food into energy your cells can use. Dysfunction in your mitochondria has been linked to conditions such as obesity and diabetes.

Finally, we have the “boss” of Fat Cell Cinema. It’s the Thyroid Gland, which produces hormones that control your metabolism (aka. the rate at which you burn energy). Thyroid hormones control the cellular activity or metabolism of almost every kind of cell in your body.

Self Reflection Questions

How has understanding the way the “Fat Cell Cinema” operates changed the way you view your body?

What part of the fat loss process was most interesting to you as you watched the video? Why?

Do you have a different perspective on fat loss now? Share your thoughts.

Module #1.2 Notes: Use this space to add notes for yourself about the topics covered in this module.

Module #1.3: All About Epicaloric Factors

In this module, you'll learn about one of the biggest misconceptions in nutrition - and how you can flip it on it's head and use it to your advantage.

This video is all about calories. But what is a calorie? Simply put, it's the amount of energy needed to raise the temperature of one gram of water by one degree Celsius. In terms of food, it's the amount of energy released by your body when it digests certain foods.

We're taught that if you can manage your calories, you'll be able to manage your weight. Burn more calories than you take in, right? It's that simple! But it's actually much more complicated than that.

Simply counting calories doesn't work, as it fails to take into account all of the other important factors involved in how your body processes the energy in food.

Although the calorie was written about by others before her, in the video Shawn talks about Lulu Hunt Peters. So, what was different about the work of Lulu Hunt Peters?

First of all, she was the first to popularize the concept of counting calories as a method of weight loss. She wrote the first weight-loss book to become a bestseller.

Lulu wrote about dieting in moral terms. She believed those who didn't control their weight were morally suspect and even unpatriotic. These messages were very harmful, and have contributed to the toxic diet culture we've had ever since.

But the truth is that counting calories just isn't enough. It's much more complicated than that, and we need to take *epicaloric factors* into account.

These are the many factors that control what calories actually do in your body, including your microbiome, digestive enzymes, stomach acid levels, whether the food is cooked and more.

The acronym for the five main epicaloric factors is "THEDM." This stands for Type of Food, How the Food is Prepared, Energy Exchange, Digestive Efficiency and The Makeup of Your Microbiome. These are the main factors that influence how your body uses calories.

Self Reflection Questions

Have you tried counting calories as a way of losing weight before? What were the results? What made it difficult? How did it make you feel?

What are some of the harmful societal messages you've heard about weight loss and dieting?

For each of the harmful messages you listed above, try writing a more empowering alternative.

(For example, instead of, "eating unhealthy food is morally wrong," you can say, "there's nothing wrong with enjoying these foods every now and then as part of a balanced diet.")

Module #1.3 Notes: Use this space to add notes for yourself about the topics covered in this module.

Module #1.4: The Three Things That Jam Your Metabolic Switches

In this module, you'll learn about three major things that impact the way your metabolism functions and how your body burns fuel.

Chronic Inflammation

The first factor is the link between chronic gut and brain inflammation and weight gain. If you have chronic inflammation in your body, it can impair your response to leptin - which is the hunger hormone that helps your brain regulate how much you should eat.

Here are some things you can do to reduce inflammation:

- ☐ Limit your intake of sugar and processed foods.
- ☐ Get quality sleep every night.
- ☐ Eat foods that contain omega-3 fatty acids, such as salmon, tuna, cold water fish, tofu, walnuts, soybeans or flax seeds.
- ☐ Do 30-45 minutes of aerobic exercise and 20-30 minutes of weight training at least 4-5 times per week.

Poor Liver Function

Did you know that your liver is one of the most important organs in your body when it comes to weight loss? Why? Because it's responsible for metabolizing fat.

If your liver is unhealthy or inflamed, this can drastically reduce your metabolic rate. Fat can accumulate around the liver, which will also contribute to insulin resistance. This leads to a vicious cycle, where more weight gain leads to more insulin resistance, and vice versa.

Here are some things you can do to improve your liver function:

- ☐ Eat a grapefruit! This fruit contains antioxidants that naturally protect the liver.
- ☐ Blueberries and cranberries also contain liver-protecting antioxidants.
- ☐ Reduce your intake of carbohydrates. This has been proven to reduce liver fat, even if you don't reduce the amount of calories you eat.
- ☐ Reduce sugar in your diet. When your liver is overburdened by sugar, it stores it as fat.
- ☐ Avoid taking too many supplements. Some supplements are good, but too many can be a bad thing.
- ☐ Reduce your exposure to toxicants, such as pesticides, herbicides and fungicides. Eat organic fruits and vegetables!

Thyroid Health

Finally, in this video you'll learn about how your Thyroid can impact your metabolism and weight loss.

Here are some things you can do to improve your thyroid function:

- ☐ Eat foods that contain iodine, such as dairy products, seaweed, saltwater fish, shellfish and seafood. (In moderation!)
- ☐ Get vitamin D from eating eggs, mushrooms and fatty fish.
- ☐ Lower your stress levels by practicing yoga or meditation.
- ☐ Eat foods that contain selenium, such as walnuts, avocados, brazil nuts and cereal grains.

Self Reflection Questions

Before watching this video, had you thought about the role of inflammation in your weight loss journey? How has this information changed your approach?

What good liver health habits do you currently have? Do you plan to adapt or change any other habits?

How have the insights in this video about Thyroid Health changed the way you see your metabolism and weight loss?

Module #1.4 Notes: Use this space to add notes for yourself about the topics covered in this module.

Module #1.5: What Are Hormones?

In this video, you'll learn all about hormones and how they function within your body - and the important role they play in your health.

Hormones are biochemical messengers that send data throughout all the cells in our bodies. They help all the cells in our body talk to each other, so that they can work together.

When something goes wrong with our hormones, the different cells in our body struggle to communicate with each other - which can cause significant problems. We currently know of about 50 different hormones that circulate and send messages throughout our bodies at any given time, and several of them are involved in metabolism.

In this course, we're going to learn how to optimize our hormones through our nutrition. Let's go into some of the most important hormones in your body, so we can learn about the role they play in our health.

Insulin

Insulin is incredibly important for survival. It's what opens up your fat cells, so that they can receive and store energy in the form of glucose, fatty acids and amino acids. Without it, you wouldn't be able to hold energy in your cells and you would wither away.

Insulin's other job is to tell your cells to stop breaking down stored energy and burning fat for fuel, signaling the process of fat loss to stop. Ideally, your insulin does its job without being *too* aggressive and overbearing.

Your insulin health is significantly affected by *what* you eat and *when* you eat. So let's look at how your nutrition impacts your insulin.

Cortisol

Cortisol is another one of the hormones that is vital to the function of our bodies. But, when there is an imbalance of cortisol, it's a problem.

Cortisol is the "get up and go" hormone, and it should naturally peak when we wake up in the morning. It helps to regulate blood pressure, manage energy and balance our blood sugar.

But excess cortisol can have a muscle catabolic effect and can actually break down your muscle tissue and use it for fuel. We evolved this ability in case we are in a life or death situation, so that we would be able to fight or flee.

But although this cortisol function helped us when we were running from predators, it can have a lot of drawbacks in our daily life. Essentially, in our modern environment we are essentially living with a chronic low-grade stress that is constantly breaking us down from the inside out.

It's essential to manage your cortisol levels, to prevent the toll these high stress levels will take on your body.

Testosterone

Testosterone helps you lose fat in a number of ways. It helps to maintain muscle mass, so you burn more calories even at rest. It also increases your energy levels, so you're more motivated to exercise. Plus, it boosts your body's metabolism so you'll burn more fat.

Testosterone is not just a male hormone. It's important for weight loss in both men and women!

Human Growth Hormone

Human Growth Hormone is what helps us grow when we are children, but it also has a lot of important functions when we are adults. It helps to maintain, build and repair healthy tissue in the brain and other organs, as well as repair muscle tissue after exercise.

It also helps increase exercise capacity, regulate metabolism, improve bone density and reduce body fat. This is why HGH is such an important hormone for your overall health!

Adrenaline

Another very important hormone is Adrenaline. This is the hormone that triggers the fight or flight response within your body. If you are ever in danger, adrenaline will kick in to increase blood flow to your limbs, heart and lungs so you can get away quickly.

Scientists at the University of Missouri School of Medicine recently made an interesting discovery. They found that fat cells have receptors that bind with adrenaline, which signals our adipocytes to release stored fat into our bodies to be used as energy.

Of course, we just have to be careful not to overstimulate adrenaline, because too much of it can be a bad thing.

Good Hormone Habits

Here are some habits you can work towards, that will help you improve your overall hormone health. Start with one habit and set an intention, then check it off the list when you've achieved it!

- ☐ Stick to a set bedtime and wake-up time so you can get a better sleep.
- ☐ Exercise for at least 30 minutes every day.
- ☐ Add a relaxing activity to your day (meditation, listening to music, reading) to reduce stress levels.
- ☐ Eat more soluble fiber (such as oatmeal, flaxseeds, legumes, fruits and vegetables).
- ☐ Eat fewer carbs and refined sugars (such as white bread, cereals, pastries, etc.)
- ☐ Stop drinking soft drinks and sweetened fruit juices.
- ☐ Learn to recognize stressful thoughts and be mindful of them. Accept them without shame or resistance, then let them go.
- ☐ Throughout your day, take a few minutes to do some deep breathing. This will stimulate the parasympathetic nervous system and reduce cortisol levels.
- ☐ Listen to relaxing music - studies have shown it can decrease cortisol.

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- ☐ Consider getting a pet! Having a relationship with an animal has been proven to reduce cortisol. (And if you can't have a pet, interacting with someone else's pet can offer similar benefits.)

Self Reflection Questions

- **Are you eating a variety of foods? What types of foods do you eat?**

A healthy balanced diet includes lots of vegetables, fruits, whole grains and lean proteins. A high amount of carbohydrates and processed sugars can negatively affect insulin regulation.

- **Have you been feeling stressed lately? Why?**

Stress can affect your blood sugar balance, as it causes your body to go into fight or flight mode. The increased stress hormones in your body will drive stored glucose to become available in the blood for emergency use, which imbalances your sugar levels.

- **How often do you skip breakfast, then have a big lunch?**

Overeating after not eating for a long time creates a sudden spike in blood sugar, which is not healthy. The better option is to have multiple well-balanced meals throughout the day.

- **How often do you exercise? How much exercise do you do?**

Not exercising affects your blood sugar balance, because it prevents you from using the extra glucose you intake throughout the day. Exercise helps your heart pump blood and oxygen to every corner of your body, so you can use up the sugar you consume.

- **How anxious and stressed do you feel on a daily basis? How long have you felt this way?**

Long term stress can actually have a muscle catabolic effect and can cause your body to break down your muscle tissue and use it for fuel.

- **When is the last time you had a good laugh? What makes you laugh?**

Multiple studies have shown that laughter promotes the release of endorphins and suppresses cortisol. So, whether it's watching your favorite comedian or singing silly karaoke with your friends, think about what gives you the giggles and make sure you do it often.

Module #1.5 Notes: Use this space to add notes for yourself about the topics covered in this module.

Module #1.6: The Three Amigos of Body Fat Storage

In a world where we can easily obtain an abundance of calories without having to hunt or forage for them, there are some major factors of potential body fat storage and the inability to lose weight. We'll call them the Three Amigos of Body Fat Storage.

Dysregulation of Appetite

Leptin is the hormone that tells your brain you are full and makes you stop eating. It's actually released by your fat cells and travels to your hypothalamus. But something happens when your fat cells are releasing too much leptin.

The high levels of leptin start getting flagged as "spam" by your brain and you develop "leptin resistance." So, you still feel hungry even when you are full. This can derail your efforts to limit your portion size, holding you back from your weight loss goals.

Hormone Dysfunction

The "captain of the hunger hormone team" is Ghrelin. It's released mainly to your stomach, as well as your brain, pancreas and small intestine. It does the opposite of Leptin - it stimulates your appetite, encourages you to eat and promotes fat storage.

According to a study in the American Journal of Clinical Nutrition, increasing the ratio of protein in your diet had some pretty interesting effects on ghrelin levels.

The study found that a high protein diet was effective at suppressing ghrelin. Test subjects on the high protein diet felt fuller for longer, had a higher resting metabolic rate and higher levels of fat oxidation.

Post Ingestive Feedback

This is another natural biochemical phenomenon in the human body that is at odds with our modern food culture. Post-ingestive feedback can cause us to overeat unhealthy foods when your brain is confused by the flavors of processed foods.

When you eat something, your brain links the flavor to the nutrients received, so that when you're deficient in those nutrients you will crave that food again. But when you eat processed food that is low in nutrients yet tastes like other things because of artificial flavors, you confuse your brain into craving unhealthy food.

Self Reflection Questions

Do you ever still feel hungry, even when you know you are full?

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How much protein do you eat? Do you notice that you feel fuller for longer when you eat a meal that has plenty of protein?

What processed foods do you crave? Can you brainstorm some more nutritious alternatives that might satisfy the flavor craving?

Module #1.6 Notes: Use this space to add notes for yourself about the topics covered in this module.

Change Your Habits, Change Your Health

Now it's time to think about how you can apply what you've learned to your lifestyle.

Here are some habits you can work towards, that will help you lose fat. Start with one habit and set an intention, then check it off the list when you've achieved it!

- ☐ Stick to a set bedtime and wake-up time so you can get a better sleep.
- ☐ Exercise for at least 30 minutes every day.
- ☐ Add a relaxing activity to your day (meditation, deep breathing, listening to music, reading) to reduce stress levels.
- ☐ Eat more soluble fiber (such as oatmeal, flaxseeds, legumes, fruits and vegetables).
- ☐ Eat fewer carbs and refined sugars (such as white bread, cereals, pastries, soft drinks, fruit juices, etc.)

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- ☐ Learn to recognize stressful thoughts and be mindful of them. Accept them without shame or resistance, then let them go.
 - ☐ Consider getting a pet! Having a relationship with an animal has been proven to reduce cortisol. (And if you can't have a pet, interacting with someone else's pet can offer similar benefits.)

Coming Up

In the next module, you're going to learn all about the microbiome-metabolism connection, and how to support it for better fat burning. See you there!