



## Module 9 Summary:

### Fat lesson

#### Checklists:

#### Before you move onto this module, have you:

- ✓ Read the module lesson from previous module?
- ✓ Watched the video?
- ✓ Completed an exercise class at least 3 times last week and had a 90% adherence rate to the new habit, drinking herbal tea at least once a day?  
This habit may take longer to cement, be prepared to stay on this habit for two weeks or more.

#### Completed the previous modules assignments?

1. Complete video: balancing and stretching workout
2. Weekly adherence sheet - week 8

If so, you are now going to discover how essential fat is in your diet. How to eat the right kinds of fats and discuss each fat in detail: saturated, monounsaturated, polyunsaturated and trans-fats. Review the fat chart and work out how you can change your diet to include the right fats in the correct amounts.

Review the benefits of omega fats and understanding the balance between omega 3 and 6.

#### Your homework this week:

1. Complete video: abdominal workout.
2. Weekly adherence sheet - week 9



## *Module 9: Fat Lesson*

Habit 9: GO NUTS! Eat one new fat this week - avocado

Exercise of the week: Abdominal workout.

### FATS

Fats have been unfairly demonised; people believe that fats make you fat! An entire industry has arisen around low-fat versions of common foods. Fat is often the first thing that people cut out when trying to lose weight. But the reality is that only some fats such as trans fats found in processed foods should be avoided.

Other fats are essential for your body. Omega 3 fat, which is found in oily fish, help to reduce inflammation and are absolutely essential for you.

Fat also plays an essential role in vitamin absorption. For instance vitamin A, D, E and K are fat soluble, which means that your body can't absorb them without fat being present.

In addition we often associate carbohydrates with energy (remember our food pyramids?) but fats are actually the most energy-dense food of all. Fats are an incredible energy source and also help to keep your blood sugar stable.

Fats also take longer to digest in the body, which means you feel full for longer and are less likely to snack on sugary foods between meals.

## Fats have major roles in your body:

1. Provide an energy source – they are the most energy dense food source.
2. Fats helps to manufacture and balance hormones.
3. Fats form our cell membranes, every cell membrane needs fat for protection and fats are needed to grow new healthy cells.
4. Helps transport the fat soluble vitamins A, D, E and K
5. Provide two essential fatty acids that the body can't make - omega 6 fatty acid and omega 3.
6. Protecting your organs, nerves and tissues.
7. Help to regulate body temperature.
8. Maintenance of healthy hair, skin and nails.

## Serving size and daily recommendations:

Women should aim for one thumb of fat dense foods with most meals.

## Eat the right kind of fats:

For years, you have been told that a low-fat diet is the key to losing weight, managing cholesterol, and preventing health problems.

It really isn't that simple. It isn't the amount of fat across the board; it's the types of fat you eat that really matter.

Bad fats increase cholesterol and your risk of certain diseases, while good fats protect your heart and support overall health.

There are several types of fat - saturated, unsaturated, monounsaturated, polyunsaturated and trans-fats to consider:

## Trans Fats:

Small amounts of naturally occurring trans fats can be found in meat and dairy products but it's the artificial trans fats that are considered dangerous, highly dangerous.

Trans-fats are normal fat molecules that have been twisted and deformed during a process called hydrogenation. During this process, liquid vegetable oil is heated and combined with hydrogen gas. Partially hydrogenating vegetable oils makes them more stable and the cake you are eating will last longer, which is very good for food manufacturers but very bad for you.

Low-fat diet products like low-fat ready meals may be low in saturated fat but they are often loaded with hydrogenated trans-fats to increase their shelf life. So try and prepare all of your own food from scratch, avoiding ready-made meals wherever possible.

Simple solution is to avoid foods that don't go mouldy in a week.

Trans-fats:

- Raise your LDL ("bad") cholesterol

And

- Lower your HDL ("good") cholesterol

And

- Increase your risk of heart disease, stroke, and diabetes.

## Bad fats 'trans-fat' are in:

1. Commercially baked goods (biscuits, cakes, muffins, pie crusts, pizza dough, breads like hamburger buns).
2. Packaged snack foods (pastry, microwave popcorn, crisps, sweeties)
3. Solid fats (margarine).
4. Fast foods (French fries, fried chicken, chicken nuggets, hard taco shells).
5. Pre-mixed products (cake mix, pancake and chocolate milk).

## Saturated, Monounsaturated and Polyunsaturated Fats.

All you need to do is include a small amount of healthy fat with most meals.

Your balance between saturated, monounsaturated and polyunsaturated fats should have equal proportions. Then your health will be optimised and your body composition and performance will improve.

You've heard the stories – “reduce your saturated fats, they are the deadly ones?”

Too much saturated fat from the wrong source isn't great, but avoiding it is too radical.

Saturated fat appears to be fine when your refined carbohydrate intake is low and your saturated fat intake is combined and balanced with healthy intake of unsaturated fats.

So the truth behind the headline is don't eat large amounts of saturated fats with highly refined carbs for example white bread and bacon! And equally, balance your saturated fats with poly and monounsaturated fats.

### Saturated fats

– Animal fats, butter, eggs, cheese, coconut oil.

Saturated fats are mainly found in tropical oils, dairy, and animal products such as red meat, while poultry and fish also contain some saturated fat. Eating saturated fats

won't lower your risk of heart disease like monounsaturated or polyunsaturated fats, but the latest studies suggest that not all saturated fat is a dietary demon either.

Saturated fats have had an awful reputation. This stems from a study in the 1950s, which found that the consumption of saturated fat increased the level of bad cholesterol in the blood, which then led to coronary heart disease.

However, the research was flawed and failed to take into account countries where inhabitants have a high intake of saturated fat and yet low levels of heart disease like France and Germany. This 1950s research influenced government health guidelines at the time and since, and as a consequence the low fat industry has boomed.

The Eat-Well plate advocated by NHS encourages you to consume more carbohydrates such as grains, rice and pasta.

However, deaths from obesity, diabetes and heart related diseases have continued to rise.

More contemporary research has illustrated that saturated fats such as milk, butter, cream, eggs and coconut oil actually increase the levels of good cholesterol in the blood and therefore benefit the heart.

That doesn't mean we can afford to sit down and eat a whole slab of cheese, but eat it in moderation and as your own levels of personal energy demand.

A cheesy omelette (not one that serenades you and tells you are good looking), but an omelette with grated cheese and a few cooked tomatoes after a workout would be absolutely brilliant.

Plus whole-fat dairy may even have beneficial effects including increasing your energy levels. The side effect of helping you to control weight, simply because the whole fat dairy option make you feel fuller for longer.

Of course, not all saturated fat is the same. The saturated fat in whole milk, coconut oil, or salmon is different to the saturated fat found in pizza, French fries, and processed meat products (such as ham, sausage, hot dogs, salami, and other cold meats), which have been linked to coronary disease and cancer.

Consider your saturated fat options:

1. AVOID overly processed meats, packaged meals, and takeout food.
2. Don't replace healthy sources of saturated fat with refined carbs or sugary snacks.
3. Don't eat just red meat (beef, pork, or lamb) but vary your diet with free-range chicken, eggs, fish, and vegetarian sources of protein.
4. When you choose to eat red meat, look for "organic" and "grass-fed".
5. Roast, grill, or slow cook meat and poultry. If you choose to fry use coconut oil.
6. Enjoy full-fat dairy and choose organic milk, cheese, butter, and yoghurt when possible.
7. Avoid breaded meats and vegetables and deep-fried foods.
8. Avoid snack foods such as crisps.

It is the hydrogenated fats that you need to eliminate from your diet but they aren't just in sugary sweets, pastries and fast food restaurants.

IT IS WORTH SAYING AGAIN:

Hydrogenated fats are also hidden in many low-fat diet products. The low fat meals are low in saturated fats but often full of hydrogenated trans fats to increase their shelf life. So prepare your own meals from scratch, avoid ready-made meals wherever possible.

Cook with coconut oil or butter, because these saturated fats are more stable when heated to high temperatures. Processed polyunsaturated vegetable oils and margarines, on the other hand, become unstable when heated. This means they oxidise easily, producing free radicals – nasties!

When free radicals work in a similar way as a trans-fat.

Free radicals and trans-fats increase the level of bad cholesterol in your blood at the same time as decreasing the levels of good cholesterol.

This has a double effect is not great when it comes to the health of your heart.

Instead increase saturated fat from:

1. Coconut oil is your best choice for high heat cooking. It is very resistant to heat, which means that when you're cooking at a high heat, it is stable and doesn't oxidise or go rancid.

When oils undergo oxidation, they react with oxygen to form free radicals and harmful compounds that you definitely don't want to be consuming.

2. Coconut oil also has powerful health benefits. It can improve cholesterol and help kill bacteria and other pathogens. The fats in coconut oil can also boost metabolism slightly and increase feelings of fullness compared to other fats.

## How heat affects oil.

The more delicate an oil the more unstable it is when it is heated and therefore more susceptible to changes and damage by heat. Delicate oils like olive oil or flax seed, sunflower or hemp seed or walnut oil are better used raw and not used for cooking. These oils have a low 'smoke point'

1. **GMO Oils** Genetically modified oils such as canola oil are used in fast food chains and restaurants.

It is generally regarded as dangerous with mounting evidence to the safety of GM oils. Vegetable oils in general have been genetically altered and best to be avoided. Other vegetable oils to be avoided are soy, cottonseed and corn oils.

2. The more delicate oil, the more unstable it is when heat is applied. However these oils are great for dressings and smoothies but are not good for cooking with.

These delicate oils should be generally stored in the fridge. They have a 'low smoke' point, which means they are more susceptible to changes and damage by heat. Even at low temperatures these oils will produce toxic fumes and harmful free radicals. So these delicate oils are the worse ones to cook with.

How to store your delicate oils:

Keep on your worktop:

- Extra Virgin Olive Oil

Keep in the fridge:

- Flax seed oil
- Sunflower oil
- Hemp seed oil
- Walnut oil

3. The opposite reaction, high 'smoke point' oil is the best oil to cook with. These oils have a high tolerance to heat and therefore produce fewer free radicals.

Stable cooking oils include:

- Almond
- Grape seed oil
- Avocado
- Sesame oil
- Macadamia nut oil
- Coconut oil - store on your worktop/cupboard

#### 4. Coconut oil

Coconut oil deserves a little section all on its own. You can't help but notice that EVERYBODY is talking about coconut oil. Slathering it on their skin (I do), cooking with it.

Why? What is the hype?

Coconut oil turns solid in cold and melts in summer. It can adapt very well to its environment – naturally.

Coconut oil used to have a very bad press a few years ago because it was being made cheaply, from the old part of the coconut and highly processed. Coconut oil which is pure, white, solid and is 'virgin cold pressed' is great stuff!

Coconut oil is made up of a special chain of fats called 'medium sized fatty acids'. This is the same small size of fat molecule that is found in breast milk. This medium sized fatty acid (MCFAs) are 'immensely brilliant' for your immune system. These unique fatty acids are known to have special anti-microbial

properties that mitigate the effects of viruses, bacteria and fungi because they are anti-viral and anti-bacterial.

The big benefit for fat loss - MCFAs are immediately used for energy and they are not stored as fat unlike long chain fatty acids that are deposited around the body for fat. So you get your energy boost every time you cook with or add coconut oil to your smoothie or slather it on your skin.

As you grow older, your collagen starts to drop away, hence wrinkly skin and increasing problems with ligaments in the joints.

The MCFAs in coconut oil helps prevent the development of wrinkles, sagging skin and age spots. It nourishes, protects and heals your skin just as it does for the rest of the body.

It effectively remedies dry or cracked skin and helps keep connective tissues strong and supple thereby reducing the appearance of fine lines.

Apparently the collagen molecules in facial cream products are too big to access the skin. If you subscribe to the French, expensive range of beauty products – be aware that these expensive products are probably doing no more than cheap bought moisturiser.

These products often contain toxic or even carcinogenic chemicals that can be absorbed into the bloodstream through the skin.

Have you heard the expression?

Only put on your body what you would put in.

Why not try using almond oil for your skin - cheap as chips! Or coconut oil which relatively speaking (compared to expensive French creams) is a much cheaper alternative – you may get the odd whiff of coconut though!

Let's move on...

### The tedious and out of date “Low fat debate”:

The commercial dietary world has an obsession with foods low in saturated fat.

You're bombarded with supposedly guilt-free options: baked potato crisps, fat-free milk, cheese, yogurt and ice cream, and low-fat biscuits and cakes.

But while our low-fat options have exploded, so have obesity rates.

Clearly, low-fat foods and reduced fat diets haven't delivered on their trim, healthy promises. Part of the problem is that many of us have swapped dairy and animal fats in our diets for refined carbohydrates and sugar, which you know have a tremendously negative effect on both weight and heart health.

So, instead of eating whole-fat yoghurt, for example, you're eating low- or no-fat versions that are packed with added sugar to make up for the loss of taste. In other words, you've swapped one thing in our diets for something that's much worse.

### Monounsaturated fats.

- Nuts, avocados, extra virgin olive oil, peanut oil, sesame oil.

Monounsaturated fats, found in things such as extra virgin olive oil, avocados and nuts, are great for increasing good cholesterol levels.

This is one of the reasons a thumbful of nuts, seeds or half an avocado make a perfect snack. Unlike sugary cereal bars and chocolate, these snacks will also keep your blood sugar levels stable and sustain your energy levels for much longer.

## HDL & LDL cholesterol.

Cholesterol is carried in the blood attached to proteins called lipoproteins.

There are two main forms:

LDL (low density lipoprotein) and HDL (high density lipoprotein).

LDL cholesterol is often referred to as "bad cholesterol" because too much is unhealthy. HDL is often referred to as "good cholesterol" because it is protective.

Monounsaturated fats are good for increasing your good cholesterol levels.

Monounsaturated fats protect HDL levels, the "Healthy" cholesterol.

They are less susceptible to oxidation than polyunsaturated oils. This makes monounsaturated fats a heart-healthy choice. Oxidation is believed to be a cause in the formation of atherosclerotic plaque on blood vessel walls.

A recent study demonstrated a lower incident of heart disease in women who ate an ounce of nuts a day. The researchers speculated that the nuts were a good source of monounsaturated fat and, therefore, helped protect healthy HDL levels.

## Polyunsaturated fats

- Sunflower oil, walnut oil, flaxseed oil and oily fish – salmon and mackerel.

Polyunsaturated fats can be found in oily fish like salmon and mackerel and are a great source of omega 3 fatty acids.

These are considered anti-inflammatory, which means they reduce your risk of injuries and chronic disease. I appreciate that some people are not great fans of fish, but try and introduce it slowly into your diet now that you appreciate its importance to your health. No amount of omega 3 fish oil capsules will beat a fresh piece of wild salmon, so try and eat fish at least twice a week.

Summary - to optimise your health, your body and your exercise performance simply balance your fats.

### The Fat Chart

Food type:	Saturated fat	Monounsaturated	Polyunsaturated
Food timing	Most meals	Most meals	Most meals
Food Amount	1/3 of intake	1/3 of intake	1/3 of intake
Examples	Animal fats (eggs, dairy, meats, butter, cheese) Coconut oil	Macadamias Olives & oil Peanut butter Avocado	Fish oil Hemp seeds Sunflower seeds Pumpkin seeds

## The Fat Chart cont.

Food type:	<b>Saturated fat</b>	<b>Monounsaturated</b>	<b>Polyunsaturated</b>
Food timing	<b>Most meals</b>	<b>Most meals</b>	<b>Most meals</b>
Food Amount	<b>1/3 of intake</b>	<b>1/3 of intake</b>	<b>1/3 of intake</b>

**Palm oil**

**Soya milk & tofu**

**Guacamole**

**Pecans**

**Almonds**

**Cashews**

**Walnuts**

**Flaxseed & Oil**

**Chia Seeds**

**Brazil nuts**

**Sesame seeds**

**Fatty fish:**

**salmon, tuna,  
mackerel,**

**herring, trout,**

**and sardines**

This might seem a little intimidating at first, but it is quite easy.

Rather than focusing on the ratios, focus instead on adding a saturated fat to some meals like cheese. Then add polyunsaturated fats to another meal like avocado and olive oil.

The third meal might have polyunsaturated fat for instance sprinkle flaxseed (otherwise known as linseed) on your breakfast - simples!

## Omega Fats

Polyunsaturated fats can be broken down even further to omega fats 3 and 6. These fats are considered essential. Firstly, the body cannot produce them. The only source is food - we need to ingest omega 3 and 6 and eat them every day!

They are also considered “essential” fats because the body needs them for many functions:

- Building healthy cells.
- Maintaining brain function.
- Nerve function.
- Blood pressure regulation.
- Hydrate skin.

Allows all body systems to function normally:

- Immune system.
- Respiratory system.
- Circulatory system.

There is growing evidence that these omega fatty acids help lower the risk of heart disease and some studies even suggest that these fats may protect against type 2 diabetes, Alzheimer’s disease, and age-related brain decline.

## Omega 3 & 6 Fat Balance

These fatty acids are different than most other fats. They are not simply used for energy or stored; they are biologically active and have important roles in processes like blood clotting and inflammation.

Omega 6 are pro-inflammatory, promote blood vessel constriction, blood clotting, pain and airway constriction. These mechanisms are critical to our health and our survival. It helps protect our bodies from infection and injury, but it can also cause severe damage and contribute to disease when the inflammatory response is inappropriate or excessive.

While omega 3 has an anti-inflammatory, blood vessel dilation, anti-coagulant, decrease in pain, airway dilation effects. They help to keep our cells more 'fluid' therefore messages can be transmitted more easily like 'insulin' sensitivity messages.

So omega 3 fats have the opposite action of the omega 6 fats.

Therefore, in a nutshell, it is fundamental, nay essential, to balance omega 3 and omega 6 fats.

The problem today, is that people who eat a typical Western diet are eating way too many omegas 6 relative to omega 3. We need to get enough omega 3 to balance the amount of omega 6 in our diet. To get the full benefit of omega 3, otherwise known as the 'good fat' we need to moderate omega 6 intake. Balance these fats.

So the simplest thing you can do to reduce your omega 6 intake is to avoid processed seed and vegetable oils such as sunflower and corn oil which are high in omega 6, as well as the processed foods that contain them.

These "foods" were only introduced to humans in the past 100 years and they have completely distorted the natural balance of these essential fatty acids.

Since World War II, the farm animals that give us meat, butter, milk, cheese, cream and eggs are no longer nourished with grass and leaves; they are fed soy and maize instead.

Grass is very rich in omega-3s, but maize contains none at all, and soy products contain very little. The animal products that we eat now are therefore highly unbalanced with far too many omega-6s and very few omega-3s. Studies show that almost all of us are out of balance in terms of our omega ratio with a considerable excess of omega-6s.

On average, people in the West have 10 to 15 times more omega-6s in our bodies than omega-3s. This is one of the reasons why all the diseases that are nourished by inflammation (arthritis, allergies, heart trouble, Alzheimer's, depression and cancer) are in constant progression in Western countries.

### Food sources of omega 3

Omega 3 comes primarily from fatty fish such as salmon, mackerel, sardines, oysters and tuna, as well as from kale, Brussel sprouts, spinach, walnuts, chia seeds and flaxseed. Plus, supplements like fish oil or algae supplements

In summary:

- Avoid trans fats.
- Balance saturated, monounsaturated and polyunsaturated fats.
- Decrease sunflower and corn oil that have too much Omega 6.
- Increase coconut oil, when cooking at high heats.
- Include fatty fish, like salmon, herring, sardines and tuna into your diet at least twice a week.
- Sprinkle chia seeds and flaxseeds on breakfast or soups.

## Homework:

1. Complete video: abdominal workout.
2. Info graph: anytime meal.
3. Weekly adherence sheet - week 9.

*Adele x*

