



Module 2 Summary:

Understanding Nutrition

Checklists:

Before you move onto this module, have you:

- Read & watched the module lesson from module one?
- Completed the exercise hi low cardio class at least three times last week?
- Had a 90% adherence rate to your new habit- drinking water?
- Completed the previous modules assignments:
 - o Physical activity readiness questionnaire (PAR-Q).
 - o Completed your Readiness for change worksheet?
 - o Taken your photos?
 - o Weekly adherence sheet - week 1 – ongoing and SUBMIT version to me?

If so please carry on, if not hold your horses, and revisit module one.

Module 2 will outline why adding more protein to your diet will help improve your overall body composition - the way you look. Plus I shall explain why, more importantly, good quality protein will help you to be healthier contrary to popular or sensational headlines.

As part of your mindset or soul work, you will review some of your own old food stories; start asking yourself if there are any old fables you need to review?

We will look in a little more detail about how nutritional guidelines have evolved over the last few decades and where we are currently. Finally this module will discuss some of the reasons why 'diets' don't work and may even lead to health problems.

Your module homework is to complete:

- Video: Pilates & injury prevention.
- Review and print out the information sheets: protein, fat & carbohydrate chart
- Weekly adherence sheet - week 2.



Module 2 : Understand Nutrition Part 1

Habit 2: Eat protein with every meal

Exercise of the week: Pilates and injury prevention

Habit

So what are the exact habit requirements this week - as well as your water add protein to EVERY meal that you consume this week.

What is the reasoning behind eating more protein?

Protein is a macronutrient, along with fats and carbohydrates. These macronutrients are energy sources for your body, and your body uses them at different times for different activity levels.

We generally think about proteins as a food group, something you consume.

It is a little more interesting than that because your body converts your food into energy sources:

For example:

- Consumed protein is broken down in the body to form amino acids.
- Carbohydrates are broken down to form glycogen.
- Fats are broken down to form fatty acids.

You need these energy sources at varying times of your day, dependent on your energy expenditure level.

For instance, whilst watching telly and walking down to the shops, your body uses fats to fuel itself. Don't get excited that doesn't mean you are burning off your muffin top whilst watching telly! You are simply using fatty acids - the broken down version of fats, to keep your body functioning.

When you are working at high intensity (when you get out of breath) your body uses stored carbohydrates or glycogen for energy. This doesn't mean that you are burning off the cake and biscuits but the 'glycogen' that your body has produced. So what converts the cakes and biscuits into glycogen for the body to use?

Or put in another way, what do we need to produce these energy sources?

Answer:

Our hero 'amino acids' or otherwise commonly known as protein! Proteins are required for everything you do inside your bodies - on a cellular level.

The better the food source of protein, carbohydrate and fat the better the more efficiently your gorgeous body works.

So if you aren't consuming good quality proteins or fats then your body and health will suffer.

**Have you ever considered that it is your diet that
makes you feel 'under the weather'?**

Back to proteins and their broken down components – amino acids:

Amino acids - the broken down proteins are **ESSENTIAL FOR LIVING CELLS.**

Your body needs to synthesize 'proteins' to make the wee cells in the body do their job - they are obviously all female because they have a lot to do.

The essential amino acids are those amino acids that the body can't make (synthesize). Therefore, you need to eat them every day so your body can fulfill its function and you feel well, great even, and can then exercise without feeling tired or hungry. Plus it will help your body to feel well.

This week you are going to introduce more protein in your diet.

Protein is needed every day for repair and growth of your body cells. In particular children who are growing need a good intake of protein foods to support their growth. Anyone who is ill requires a good intake of protein to repair and heal cells.

So for this week's habit we are going to have a protein source in **every meal.**

Protein in every meal will remain constant in your diet whether you are on an exercise or non-exercise day.

Animal protein sources such as eggs, fish, chicken and beef are considered complete protein sources because they contain all the essential amino acids needed by the body. Vegetarians can of course use tofu or Quorn but need to consume much larger quantities to get your protein intake to the required level.

To summarise macro-nutrients are:

- Proteins
- Carbohydrates
- Fats

The micro-nutrients (otherwise known as vitamins) in protein include:

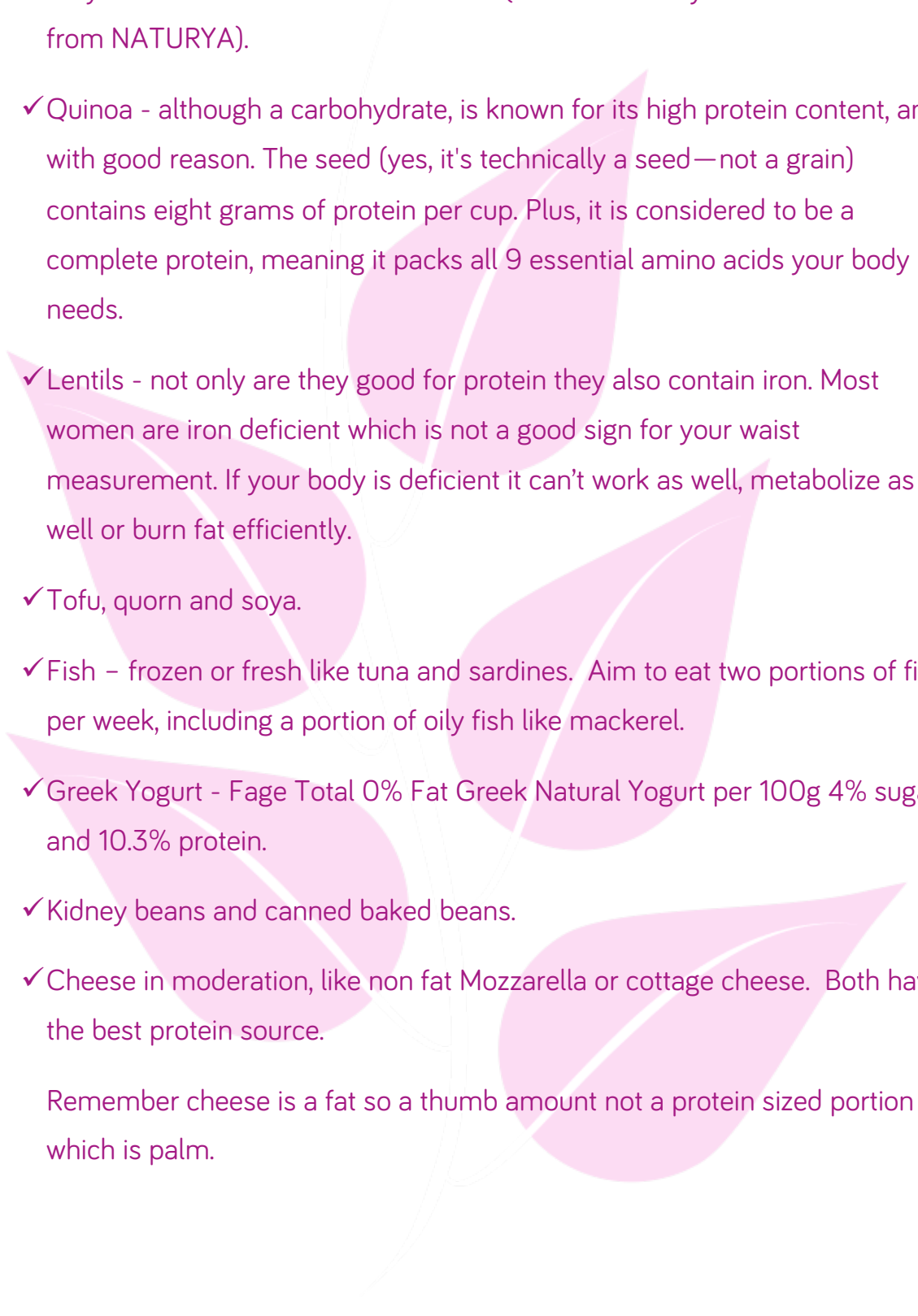
- Iron
- B vitamins
- Magnesium
- Zinc

Avoid:

- Processed meats such as chicken dippers and nuggets. Choose butchers sausages and burgers or the highest quality you can afford.
- Avoid processed meat products such as salamis and pork pies.

Include:

- Lean cuts of meat and poultry without the skin
- Fish without crumbs or batter.
- Beans and pulses are naturally very low in fat and can be used to bulk out the meat in soups, casseroles and stews.
- Animal fat, saturated fat - is one source for the body's cells.
- However environmentally, ethically and importantly for variety, you may want to consider other protein sources:
 - ✓ Eggs. Not only are eggs an incredible source of protein, but they also contain several B vitamins responsible for energy, including B6, B12, thiamin, riboflavin, and foliate.
 - ✓ Nuts – Brazil nuts, walnuts, crushed and added to porridge in morning.

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- ✓ Chia Seeds - despite their tiny size, chia seeds are among the most nutritious foods on the planet. They are loaded with fibre, protein, Omega-3 fatty acids and various micronutrients. (Amazon: Naturya Chia Seeds 300 g from NATURYA).
 - ✓ Quinoa - although a carbohydrate, is known for its high protein content, and with good reason. The seed (yes, it's technically a seed—not a grain) contains eight grams of protein per cup. Plus, it is considered to be a complete protein, meaning it packs all 9 essential amino acids your body needs.
 - ✓ Lentils - not only are they good for protein they also contain iron. Most women are iron deficient which is not a good sign for your waist measurement. If your body is deficient it can't work as well, metabolize as well or burn fat efficiently.
 - ✓ Tofu, quorn and soya.
 - ✓ Fish – frozen or fresh like tuna and sardines. Aim to eat two portions of fish per week, including a portion of oily fish like mackerel.
 - ✓ Greek Yogurt - Fage Total 0% Fat Greek Natural Yogurt per 100g 4% sugar and 10.3% protein.
 - ✓ Kidney beans and canned baked beans.
 - ✓ Cheese in moderation, like non fat Mozzarella or cottage cheese. Both have the best protein source.

Remember cheese is a fat so a thumb amount not a protein sized portion which is palm.

Food avoidances - old stories or myths

Cheeses are fatty foods, but don't forget their contribution to your calcium intake and other benefits to avoid osteoporosis.

Cheese doesn't need to be avoided altogether.

I used to be terrified of cheese, Weight Watchers, advised me that a matchbox of cheese would be 4 points - with 18 points to live on why would I go near cheese?

Of course chocolate, crisps, cakes, biscuits and other indulgences were okay... because, well they taste good and I was prepared to 'spend' my points there. My thinking was I could easily lose the calories from not eating the cheese! Does that sound familiar? Do you have food avoidances because of 'stories' you were 'fed' - (pun intended).

Is avocado a no go for you, for similar reasons?

So take a moment here to consider any foods that you have avoided because they were considered fatty or unhealthy like full fat milk.

Please share your thoughts on the private forum or reflect upon them in your adherence sheet.

Let's be honest, it doesn't make nutritional sense to leave out certain foods. Cheese is also a protein, but not really that great for fat burning when eaten at the end of the day with copious amounts of wine. However, do consider a thumb full of cheese as a snack if you're hungry.

As an aside I should mention that you don't need to add a snack simply because it is on the adherence sheet. If you are not hungry at all during the day, then leave out the snack.

Only snack if you are hungry. If you have increased your exercise and movement routine, you will need to eat more to fuel your recovery.

Adding cheese back into your diet – thumb measure.

Adding a good quality cheese - maybe not supermarket bought - will increase your protein intake:

Parmesan Cheese 456 calories Protein: 42%

Non-Fat Mozzarella 49 calories Protein: 32%

Other cheese high in protein include: Cottage Cheese, Swiss Cheese, Cheddar.

Full fat cheeses are less optimal sources of protein.

UK research* has shown potential benefits of cheese:

- ✓ Inflammation. A complex enzymatic transformation that occurs as cheese ripens leads to the formation of substances known to reduce inflammatory markers such as C-reactive protein.
- ✓ Blood pressure. Cheese contains compounds that help to control blood pressure.
- ✓ Cholesterol and bacteria. Cheeses with mould (such as Roquefort) may be particularly advantageous to cardiovascular health. When these cheeses are ripened through fermentation with fungi such as Penicillium Roquefort, they form substances that combat bacteria. These bacteria help to breakdown cholesterol.
- ✓ Nutrient status. Cheese also provides numerous nutrients that the body needs for overall good health—including heart health—such as protein, calcium and vitamins A, D, B6 and B9.

So what is the message?

Don't avoid cheese, ladies. Don't eat loads of it, but don't leave it out of your diet - you need it for your BONES!

Choose to eat strong flavored cheese so you don't need so much.

So in summary here is what we need to do in the form of a Protein Chart:

Food:	Protein dense foods
Food timings:	Eaten with every meal
Food Amount:	1 serving (size of palm)
Protein examples:	Lean meat, fish, eggs, dairy, beans

Protein supplements

Well, I sneaked that into the end of the summary. Protein powders are big in the fitness industry and for anyone looking to be healthy there is some contention as to their health benefits.

If you can manage to obtain a good source of protein into every meal, please strive for that. If however, you are not able to do this or are still feeling hungry you might want to try a protein supplement.

The local health food stores will surprise you, they do supply them and they are very knowledgeable about what to purchase.

For instance whey protein is brilliant for post workout drinks because it reaches the muscles quickly so the amino acids can start to repair and rebuild muscle fibres immediately after a training session.

However if you need a dairy free alternative because whey is derived from dairy, you could try vegan protein powders such as hemp or pea.

I've tried them all; whey protein gives me stomach cramps, mild cramps like peristalsis, food moving through your gut. Whey protein powders may bung you up and cause some constipation. So please use sparingly

I tried the Body Coach recommended protein powder brand – My Protein. It is much lighter product with little stomach cramping, but has a very sweet taste. I wouldn't advise it if you are trying to regulate your sugar intake and avoid heightening your sugar receptors.

Hemp powder is very powdery – but much lighter on your digestive system. So a good one to use in your vegetable smoothies.

Food Nutrition and Education

So having established that you want to increase your protein intake, lets now move on to discussing carbohydrates in our diet.

I don't know about you but growing up I was used to seeing food pyramid images like this:



This simplified visual reference uses carbohydrates as the base to your food pyramid, giving you the impression that they are essential to everyday life.

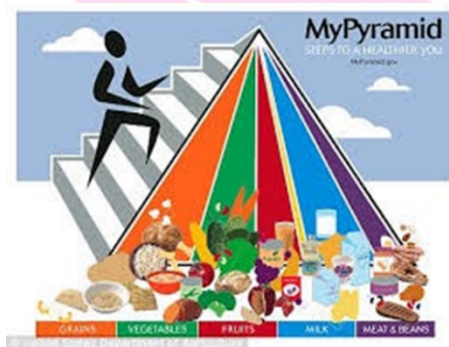
I used to work with the understanding that carbohydrates gave you energy, without them you will be tired.

Like a lot of fitness instructors, I used to eat a lot of carbohydrates in order to keep teaching and keep my exercise and energy levels high.

Do you remember seeing a slight overweight instructor? They are tired and trying to supplement their diet with more carbohydrates to keep going. I know now from experience, it doesn't work. Carbohydrates are not the answer.

I picked up a Health Wise leaflet from a school recently and it too had carbohydrates as 1/3 of our plate and protein only 1/6. It is the wrong message. It is out of date. Carbohydrates are making us fat, we need protein to sustain everything we do inside our bodies on a cellular level.

Improvements have been made and more recent public information use this pyramid chart:



This pyramid was an improvement on the last chart because:

- Exercise was included.
- Carbohydrates reduced.
- Higher fruit and vegetable.
- Moderate dairy.

- Inclusion of healthy fat.
- Increased protein consumption: meat & bean.

However, the nutritional recommendations were not changed substantially. Dairy still has its own food group and is emphasized to the exclusion of water and other healthy beverages.

The 'MyPyramid' was an improvement but this dietary recommendation still has its flaws:

- Where does avocado or olive oil fit in here?
- Where is the water?
- Healthy fats and oils are excluded
- Plus it recommends for grains (otherwise known as starchy carbohydrates) with each meal which is too carbohydrate dense, especially if your levels of activity aren't high.



At this stage in our work together I would like you to consider the MyPlate above.

Let's take on board this picture but add a few amendments - half your plate with vegetables (fruits have too much fruit sugar - fructose, so stick to veggies).

Plus, increase your protein in favour of grains/carbohydrates. So push up the purple wedge and decrease the orange wedge.

And add a healthy fat - olive oil on your salad, avocado as your vegetable and fat source. At the moment I am not suggesting you create a habit from this plate. We are just reviewing it and considering it. The habit for the week remains adding protein to each meal.

Dieting - Why it doesn't work.

Good nutrition programmes should accomplish three things:

- ✓ Improve the way your body looks i.e. body composition
- ✓ Improve your health
- ✓ Improve your exercise performance

Compare these three goals against popular diets - low calorie, low carbohydrate diet and very high carbohydrate diets.

The problem with diets is that they focus solely on one of these elements and ignore the others,

Diets can cause problems. For instance, if you are concentrating on body composition, looking slim, and using the fasting method, then your exercise performance and overall energy levels will be affected.

Low calorie:

Personally I can't even consider fasting or even anything low calorie - I know my body.

Your sugar level, energy and mood drop and you become tired and bad tempered to the most important people in your lives, your loved ones. Good nutrition, well spaced around your day will keep you happy and healthy.

Well-spaced around your day doesn't mean small and often or grazing (another tired and overused phrase - sorry wee rant, but I am genuinely concerned about low calorie diets and what it does to your appetite, health and ability to function!)

I mean four meals and snacks spaced out throughout your day - if you are exercising at a high level. You don't need to snack if your exercise levels aren't that high. You will find your natural balance.

You know your body. If you have tried fasting in the past (the 5:2 diet), how does it make you feel? Are you losing weight or water or even worse muscle mass?

You might think well what do I want with muscle mass, I don't want to look built up or look like a body builder.

Honey, you won't bulk up but you can build muscle, which is a great fat burner. Plus more importantly muscle mass helps to support your skeletal frame. Move your body. Women can't bulk up without a considerable amount of 'synthetic' help!

We don't have the testosterone levels to bulk up; you simply aren't built to do that. Men can't open their hips and sit crossed legs comfortably (shame!) and you can't get huge muscular bulk without assistance.

So leaving aside my wee rant, you need and want muscle mass and low calorie diets will rob you of that before it robs you of fat. It is easier for the body to access muscle than fat. The fat is too well hidden and stored and the body has a vested interest in keeping it, in case of famine.

Like me, your body is still worried about the Irish potato famine!

Bear in mind that a low calorie diet or calorie restriction will reduce body weight (not necessarily fat), and has been beneficial in increasing animal life span. BUT this research has not been validated in humans.

The concern with low calorie and long-term restrictions is that it can reduce bone density.

Osteoporosis is rampant in our society, even in young female athletes. These diets can reduce muscle mass and strength and eventually lead to losing independence and mobility with age. Low calorie diets compromise your physical performance by robbing you of the energy that you get from food and metabolic power that goes with it.

Robbing your calories makes you tired and not able to keep up with your daily activities and demands, or dare I say it - bad tempered like me.

Liquid diets – smoothies

Smoothies are great for a snack, but using them as a meal replacement, is another version of low calorie diet with all the health counter indications mentioned before.

Processing your vegetables will remove some of the fibre quality and it is one less process the body has to do, so your smoothie becomes closer to a simple sugar. I have a strategy for smoothies, which I will discuss towards the end of the course.

Low carbohydrate diets reduce blood sugar and cardiovascular disease risk – great!

However, if you reduce your sugar levels too far there is little for the body to function on. We need glycogen as the body's food to perform fast intensive sports like squash, netball, hockey or football or endurance sports like running or even fast (proper) walking. Glycogen is the sugar that the body needs to function or more specifically the 'energy pod' your cells need to do their jobs. However glycogen is made from all sorts of carbohydrates not just sugar. So you don't need to eat extra sugar, it is already in your diet.

Homeostasis

The body's instinct, reason for being, is homeostasis, keeping the body at a stable and constant internal condition.

So if the body thinks of reduced calories it will shut down non-essential functions.

That is why your exercise performance level drops. If this low calorie intake continues your body holds on to its reserves - fat. Fat is the last thing to be utilised by the body. Instead muscle mass, or lean tissue as it is called, is one of the first 'food products' for the body to use for glycogen production to keep you going.

Another example of the body maintaining homeostasis is when we consume high doses of sugar.

A pure sugar rush like a sugary drink or a bar of chocolate - the body panics and starts shoveling the sugar out of the circulatory system and into storage - as fat. So that it can maintain homeostasis.

If you obtain good healthy glycogen stores in your body and keep them stable, the body can carry out its function well and decide in a calm, organized manner where the glycogen needs to go - storage in muscle for exercise. Or, if you have consumed too many carbohydrates and created too much glycogen, then the glycogen is stored in the fat cells.

So whilst carbohydrates, in the form of sugar, do lead to fat, carbohydrates like brown rice are required to keep your engine burning. If you eat too little you will have no energy.

Okay, maybe I'm getting ahead of myself here, but it is worth considering and knowing.

Very high carbohydrate diets, which to be honest, most of us are consuming are simple sugars and little if any fibre and micronutrients. For instance, consuming a 'Lucozade' or fizzy or even 'health' drink whilst working out is not a good idea. You might feel as if it is enhancing your performance but the only thing you are 'working off' is the drink.

Sugary drinks reduce your insulin resistance and actually decrease performances in the long term. We will look into this more on the Sugar Module.

Assignments

1. Complete Video: Pilates & injury prevention.
2. Information sheets: Protein & fats.
3. Weekly adherence sheet - Week 2.

Research source:

*Ivan Petyaev, MD, PhD, CEO and founder of Lycotec Ltd., Cambridge, UK. His study was published in Medical Hypotheses.