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DXIDATE PERFORMANCE EVOLUTION

YOUR BODY IS AN INCREDIBLE FUNCTIONING MACHINE -

FOOD IS WHAT FUELS THAT MACHINE

This e-book is designed to give you a good understanding of the nutrition fundamentals and principles that are scientifically proven and will help you improve your diet and help you become a better functioning athlete.

This is NOT a quick fix guide, because quick fixes simply don't exist and do not work. There are many aspects to a well-built diet that enhances your health and performance and in fact it is quite simple.. but it is not necessarily easy.

Let this e-book educate you on what you should really be focused on when building your meals and structuring the way you eat to help take your game as a footballer to the next level.

No bias here, no gimmicks, no crazy do's and don't's. Simply an overview of nutrition knowledge that you should know and will soon be educated on after reading this.

With that being said, let's get stuck into improving your performance levels, body composition and overall health.



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CHAPTER 01 The hierachy of nutritional importance

When looking to maximise your performance and build the body you desire, the hierachy of nutritional importance is the tool you want to understand and remember. Just like playing football, you work on honing your skills one by one. Once you achieve a certain level of that skill you can then take it to another level. But without first building the foundations of that skill you can't just jump to a level that is out of your reach.

The same applies with nutrition. This pyramid shows the foundations that you MUST get right first before you look to get more technical and more specific with your nutrition. Understanding this takes a world of stress away. Nail the basics, nail the foundations and you are 80-90% on your way to maximising your performance and achieving your goals through nutrition.



As you can see the image below, the pyramid shows what is the most important to the least important. Right at the bottom is calories. Why? Because the food you consume determines how much energy you are consuming daily.

When you align this with your daily output (how much energy you burn each day then you understand the caloric needs of your own body.

CHAPTER 01 The hierachy of nutritional importance

From here you can manipulate calories to achieve optimal performance and specific goals. That is why calories are the number one area to get right first and then work your way up the pyramid from there.

Once your understand your calories you can then be specific with your macronutrients. We will delve deeper into this in chapter 03, but the 3 macros that we consume are protein, carbohydrates and fats.

They are ALL very important to your body and all have unique and significant roles to play in your performance and recovery levels. Consuming adequate calories and getting your macros right will 9/10 mean you are getting enough nutrients from the food you eat = micronutrition = vitamins & minerals.

But - the quality and types of foods you choose to hit your macro and

calorie goals makes a world of difference. So, remember this – real food always wins! By this, we mean real whole nutrient dense foods.

If you can consume real nutrient dense foods 80% of the time, you will be ticking the boxes in terms of getting your micronutrition on track.

This will result in your performance going to anothe level. Remember the food you eat has an incredible impact on your health, performance and recovery levels.



UNDERSTANING NUTRITION IS AN ABSOLUTE GAME CHANGER

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CHAPTER 02 Calories in vs calories out

Calories (kcal) ale the energy we consume that our body needs to function. As an athlete it is crucial to adequately fuel your body. Not doing so will lead to body sub optimal performance, inability to adequately recover, negative effects on your sleep, reduced levels of concentration and increased injury risk.

So, the energy you consume needs to be relative to the amount of energy you are burning each day and week and also in line with your goals.

HOW MANY CALORIES DO YOU NEED? Basal Metabolic Rate, also known as BMR, is the amount of energy your body burns at rest on a daily basis.

In other words: It is the number of calories required to keep your body function while you are not doing any physical activities. It is essential you know what your BMR is because from this number you can then work out how many calories you need.

To work out your BMR simply search any BMR calculator on the internet or use a food tracking app like MyFitness Pal or Cronometer and they will give you a number based on your age, height and weight.

An easy site to use for BMR is:

<u>https://www.bodybuilding.com/fun/bmr_calculator.htm</u>

Once you know your BMR you times that by how active you are using formulas as per below:

If you are lightly active (light exercise/sports 1-3 days/week) : Calorie-Calculation = BMR x 1.375.

If you are moderately active (moderate exercise/sports 3-5 days/week) : Calorie-Calculation = BMR x 1.55.

If you are very active (hard exercise/sports 6-7 days a week) : Calorie-Calculation = BMR x 1.725.

This will give you a rough guide to how many calories you are burning on average per week.



This amount represents your average caloric burn each day which is also referred to as your 'maintenance level'.

From here you can now workout how many calories you need to achieve specific goals.

Optimal performance is usually the main goal as an athlete no matter what. On top of optimal performance most players will have additional goals based on what they want to improve on and the timing of the season.

These goals are usually to gain muscle, improve body composition and burn body fat.

A PLAYER WHO HAS THE SAME MUSCLE MASS IF NOT MORE MUSCLE, AT THE SAME TIME AS HAVING LESS BODY FAT, MEANING THE PLAYER IS

LIGHTER BUT HAS THE SAME STRENGTH AND POWER = A QUICKER MORE EXPLOSIVE FOOTBALLER AS THE POWER TO WEIGHT RATIO IS INCREASED.

It is important to understand that trying to achieve a specific goals like gaining muscle or burning body fat is difficult to achieve both at the same time.

It takes a lot longer achieving both together rather than just focusing on one at a time. That is why we recommend focusing specifically on one at a time to maximise your bodies ability to build muscle or burn body fat in isolation whilst still trying to maintain high performance levels and stay injury free.

Once you have achieved your goals of building new muscle or burning body fat you can then change and adapt your nutrition in the other direction to then achieve your next specific goal.

It is possible to do both at the same time but this is a slower process the benefit though is that optimal performance and recovery will be maintained as your nutrition set up for this would have you eating around maintenance caloric levels.



CHAPTER 03 Adjusting your caloric intake for your goals

CALORIC EXPENDITURE X PERFORMANCE GOALS = REQUIRED CALORIC INTAKE

OPTIMAL PERFORMANCE

Optimal performance you want to be at least at maintenance level. This means that you are ensuring you are consuming as much as you are burning each and everyday and throughout the week.

BUILDING MUSCLE & GAINING STRENGTH

Gaining strength and muscle mass you need to be in a surplus of calories. To build muscle and increase strength you want to adjust your caloric intake to being a calorie surplus.

This means you are consuming more than you are burning each day. This allows you to have extra energy available in the body to be able to maximise each training session, recover optimal from every training session and have the energy available for your body to adequately repair the damaged muscle fibres and build new ones. Staying in a surplus over time with a proper training program will enable you to gain muscle.

BURN BODY FAT

To lean down and burn body fat you need to be in a caloric deficit.On the opposite end of the spectrum, to burn body fat you need to be burning more calories than you are consuming each day. This results in a caloric deficit. Your body then has to tap into the fuel sources you already have in the body to provide energy for your day to day activities and training. In the ideal world you can adapt your nutrition and program to ensure your body is tapping into your stored body fat and converting that into energy.

This will result in burning body fat and improving your body fat composition

CHAPTER 03 Adjusting your caloric intake for your goals

EXAMPLES OF CALORIC NEEDS

OPTIMAL PERFORMANCE:

As discussed above - your caloric goal for optimal performance is to at least be at or around maintenance level.

An athlete with a BMR of 1800kcal training 3-5days/week at moderate to high intensity = 1800 x 1.55 = 2800kcal

For this athlete, their maintenance level would be 2800kcal per day on average throughout the week

BUILDING MUSCLE & GAINING STRENGTH:

Let's take the same athlete as the example.

When looking to build muscle you want to be in a caloric surplus, Ideally you want to aim for a 5-15% surplus. If you go too much into a surplus you run the risk of putting on a lot of fat at the same time as muscle which isn't ideal for anybody let alone athletes.

So, maintenance: 2800kcal 5% of 2800 = 140kcal = 2800 + 140 = 2940kcal 15% of 2800 = 420kcal = 2800 + 420 = 3220kcal

BURN BODY FAT:

Again, taking the same athlete as the example.

When looking to burn body fat you want to be in a caloric deficit. To achieve this, aim for a 10-20% caloric deficit. Going too far into a deficit will have negative impacts on performance and recovery and also the body may start to tap into muscle tissue to provide it with energy rather than just tapping into the body fat.

So, maintenance: 2800kcal 10% of 2800 = 280kcal = 2800 - 280 = 2520kcal 20% of 2800 = 560kcal = 2800 - 560 = 2240kcal

CHAPTER 04 Macronutrients - Protein

PROTEIN

Protein is found in every part of your body including your organs, tissues, muscles and even your hormones. That is why protein is an absolutely essential part of your daily food intake and protein requirements must be met.

Awesome facts as to why protein is so important:

- Protein is made up of 8 essential amino acids, and 12 nonessential amino acids. The 8 essential amino acids mean that our body does not produce them ourselves, therefore we must consume them in our diets through the food we eat
- These amino acids are essential for the building and repairing of cells all over the body, especially muscle tissue cells as it helps build lean muscle tissue and recover the tissue as well.
- Consuming enough protein in a meal spikes muscle protein synthesis which is the creation of protein from the amino acid building blocks which will help build and repair muscle
- Protein is the most satiating macronutrient meaning it is the most filling macro as it helps you feel fuller for longer compared to carbs and fats
- Protein has the highest thermic effect of food; meaning it uses the most energy to digest – your body has to work harder to break it down and use protein
- Protein even more important when you are looking to burn fat as having enough protein helps retain lean muscle tissue



HOW MUCH PROTEIN SHOULD YOU CONSUME?

The amount you need depends on your current body, how much muscle mass you have, what type of training you are doing, how active you are, and what your current goals are.

CHAPTER 04 Macronutrients - Protein

Optimal daily protein intake for athletes and similarly active adults

Body weight		Lower end	Higher end
Pounds	Kilograms	(grams)	(grams)
100	45	64	100
125	57	79	125
150	68	95	150
175	79	111	175
200	91	127	200
225	102	143	225
250	113	159	249
275	125	175	274

Regularly active adults and athletes can optimize body composition, performance, and recovery by consuming <u>1.4–2.2 g/kg (0.64–1.00 g/lb)</u> of protein – preferably aiming toward the upper end of this range.

The research also shows even higher intakes when seeking muscle gain in a caloric surplus: Athletes and active adults can minimize fat gain when overfeeding by increasing protein intake to upward of <u>3.3 g/kg (1.5 g/lb).</u>

And similarly, the same when dieting down to reduce body fat levels: When dieting for fat loss, athletes and other active adults who are already lean may maximize fat loss and muscle retention by increasing protein intake to <u>2.3–3.1 g/kg (1.00–1.41 g/lb)</u>

As with most things in nutrition, there's no simple answer. Your individual needs depend on your health, body composition, main goal, and level of physical activity (type, intensity, and duration).

And even taking all this into account, you'll end up with a starting number, which you'll need to adjust through selfexperimentation.

CHAPTER 04 Macronutrients - Carbohydrates

CARBOHYDRATES

Carbohydrates aka 'carbs' are the bodies preferred fuel source. Carbohydrates are found in many foods in which they are all broken down in the body into simple sugars, pass into the blood stream as 'glucose' and then stored in the liver and muscle cells as 'glycogen'.

Carbs provide our brain and muscles the energy required to function optimally, they have a positive impact on our hormones, and they refuel our depleted muscle glycogen stores after a exercise.

CARBS ARE THE MOST READILY AVAILABLE ENERGY Source in the body ready for when you need to move, think, and perform.

As a footballer, carbs are you go to help maximise your performance and also recovery.

There is a lot of talk about higher fat diets in recent years for athletic performance, but the science shows that carbohydrates are the preferred fuel source for moderate to higher intensity exercise – which is exactly what football is.

Getting enough healthy fats is just as important, but when we are talking about maximising your ability to train your best, recovery your best, and perform your best on matchday – you must be adequately fuelled with enough carbohydrates.



CHAPTER 04 Macronutrients - Carbohydrates

HOW MUCH DO YOU NEED?

This is very dependant on the individual as with everything in nutrition.

When setting up your diet, you need to work out overall calorie needs first, then protein requirements, then fat intake and then the remainder of the calories goes to carbohydrates.

How to calculate your needs:

Let's use 3000kcal as the example

Protein: 2g/kg x 70kg (bodyweight) = 140g protein

• Protein = 4kcal per gram = 140g x 4kcal = 560kcal

Fat: 0.5 (minimum recommended amount) x 70kg = 35g fat

• Fat = 9kcal per gram = 35g x 9kcal = 315kcal

560 + 315 = 875kcal

3000kcal – 875kcal = 2125kcal

Carbs: 2125kcal divided by 4 (carbs = 4kal per gram) = 531g of carbohydrates

That is how you work out your carbohydrate needs. As 0.4-0.5g per kg of bodyweight is the recommended minimum amount of dietary fat that you aim for each day, this would mean that 531g is the upper limit of carbohydrates you would want to try and consume.

When we program nutrition around games then we try and get our athletes carb intake as high as possible that they can tolerate, but some people may have issues with consuming this much food, so you simply reduce it to a level that suits the individual.

When looking to lose weight/ burn fat then you manipulate this to go lower carb, keep protein high and increase dietary fat intake.

CHAPTER 04 Macronutrients - Dietary Fat

DIETARY FAT

Fat is the most energy dense source of fuel our body contains. 1 gram of fat provides 9 calories, and we can store almost infinite amounts.

Evolutionarily as humans we are hardwired to consume fats first as it provides more calories (energy) per gram and was an important part in surviving when food was scarce at times.

This also means when we are in a deficit, naturally our body wants to preserve body fat as it may need it later on to survive, so tends to try and burn muscle first as protein only contains 4 calories per gram which is less than half.

That is why protein consumption is crucial to preserve muscle mass when in a caloric deficit, and not as much is needed when we are in a surplus as we aren't in 'survival' mode.

Not to mention how delicious fats are, there is an abundance in the average diet these days and too much can become very detrimental in terms of types of fats, but more so due to the excessive number of calories being consumed from high fat consumption.

But dietary fat is so important to our health and performance and no one should be afraid of fat. Consuming an adequate amount of dietary fat daily will help maximise your performance as an athlete and keep your body healthy and functioning optimally.

Awesome facts as to why fat is so important for us:

- Fats facilitate the transportation and absorption of the fat-soluble vitamins A, D, E and K
- Omega-3 fatty acids (EPA and DHA) are extremely important for the health of all cells, our cardiovascular health, joint health, brain function, and digestion
- Fats in a meal help slow down the digestion of the food in which helps keeping you feel fuller for longer
- Fat insulates your body, protects your vital organs and assists with brain function

CHAPTER 5 MICRO-NUTRIENTS: IMPORTANCE OF NUTRIENT DENSITY

IMPORTANCE OF NUTRIENT DENSITY

The final step to optimising your performance is ensuring you are getting as much nutrients as possible in the food that you eat.

We have spoken a lot about calories and the macronutrients that make up the calories you consume, but the nutrient density of your food is just as IMPORTANT, if not more so.

hat is why we teach the 3 base levels of the hierarchy of nutritional importance to be viewed and perceived as one altogether. Maximising the amount of quality vitamins and minerals and all the other amazing components of nutrient dense foods will supercharge your health and therefore your performance and help you achieve you goals quicker than ever.

If you just get your calories and your macros in check but eat nutrient poor

foods to do so, you will not be able to sustain your health and performance and as an athlete will not be able to reach your potential.

THE NUTRIENT DENSITY OF YOUR FOOD IS CRUCIAL, Not just your calories and hititng your macros

SO WHAT ARE MICRO-NUTRIENTS?

Micronutrients are exactly as they sound, 'micro – nutrients', but they play a huge role in the body and are absolutely essential to optimal health and function.

Micronutrients are the vitamins and minerals found in food and help with the daily function of absolutely everything our body does. They are found most predominantly in whole foods, alongside the macronutrients.

A diet consisting of adequate amounts of micronutrients is one that can perform and recover optimally day to day.

CHAPTER 5 MICRO-NUTRIENTS: IMPORTANCE OF NUTRIENT DENSITY

VITAMINS

Vitamins are of a group of organic compound that is essential for normal growth and nutrition.

These are required in small quantities in the diet because they cannot be synthesized (made) by the body and must therefore be consumed from our diet.

Vitamins: Vitamins are broken up into 2 categories: Water soluble and fatsoluble vitamins. There are 9 water soluble, meaning they dissolve in water and 4 fat soluble, meaning they dissolve in fat.

Water soluble vitamins are ones that aren't stored in the body, therefor we must consume them through the food we eat. They are the family of B Vitamins, and Vitamin C: B1 (thiamine), B2 (riboflavin), B3 (niacin), B5 (pantothenic acid), B6, B7 (biotin), B9, B12

(cobalamin), and Vitamin C.

The 4 fat soluble vitamins Vitamin A, D, E, and K, are most abundant in higher fat foods and are much better absorbed into the bloodstream when you eat them with fat. A diet low in healthy fats inhibits the absorption and uptake of these fat-soluble vitamins.

That is why it is crucial to at least get the minimal amount of dietary fat in the food you consume daily.



CHAPTER 5 MICRO-NUTRIENTS: IMPORTANCE OF NUTRIENT DENSITY

MINERALS

Minerals are element forms of chemicals found within foods that are biologically available. Minerals in the diet are often used to maintain electrical balances due to their electron charges and have a great deal of impact on water balance. A lot of minerals fall under the catch-all term 'salts'; magnesium salts, calcium salts, sodium, potassium. The other

important minerals are: iron, zinc, iodine.

Deficiencies in the above nutrients may lead to a decline of any biological function, from immune function to energy production to nerve signalling, but overconsumption (or an impaired ability to clear a build-up) can be just as dangerous to our health.

Finding balance is key with any nutrient, and one key reason why our nutritional focus should always be on a broad and nutritious diet that allows for consumption of all the key vitamins and minerals and doesn't over emphasise any particular nutrient due to extreme diet practices.

So, a well-rounded, balanced and nutrient dense diet will give you the required nutrients you need for optimal health. The complications arise when you restrict certain types of foods, food groups, or have specific restrictions like being vegetarian or vegan where supplementation may then become useful to make up the missed nutrients in your diet.

This is why at Oxidate we use a nutrition tracking app called Cronometer. This allows us as the coaches to break down a person's diet to the smallest of details of how much of each nutrient you are consuming and ensuring as athletes you are not missing out on crucial areas of your nutrition.

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As you can see nutrition is an absolutely crucial part of a players game.

Understanding food and what your body requires as an athlete, can take your health and performance to another level.

This is why at Oxidate we try and educate all of our players as much as possible so you can have the understanding of what to focus on and the confidence that you are implementing theright.tbings.to improve as a footballer..... Want to put this information into practice with our help?

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