



2 NUTRITION



take care

WHAT IS IT?

Proper nutrition is crucial for everybody, and especially for the **growth and performance of children and young people**. The types of foods that fuel energy and the right times to consume them, depending on whether physical activity is practiced or not, are all important to reap the full benefits.

The UEFA Take Care programme focuses on enhancing health and well-being through football. This white paper focuses on the importance of nutrition, the risks of an unhealthy diet, the different nutrient groups and their benefits. It provides **practical advice for parents, caregivers, teachers, coaches and staff** to support children and young people in cultivating healthy eating habits while also stressing the **essential connection between nutrition, physical activity and mental health**.

TAKE CARE PROGRAMME

The UEFA Take Care programme is composed of six interconnected modules:

- Physical activity
- Nutrition
- Mental health
- Digital addiction
- Substance awareness
- Road safety

In addition to a white paper like this one, each module is supported by several tools including posters, a podcast, a documentary and an educational session.

WHO IS IT FOR?

The programme and its tools are designed for national associations, leagues, clubs, other football stakeholders and schools. It is intended to be used by parents, caregivers, teachers, coaches and staff to benefit everyone, but especially children and young people.

HOW TO USE IT

A user guide is available to help football organisations and schools understand and maximise the use of these tools. Resources can be consulted independently on www.uefa.com/takecare, providing flexibility in learning and application. However, as the topics explored are interconnected, useful references can be found within the other tools.

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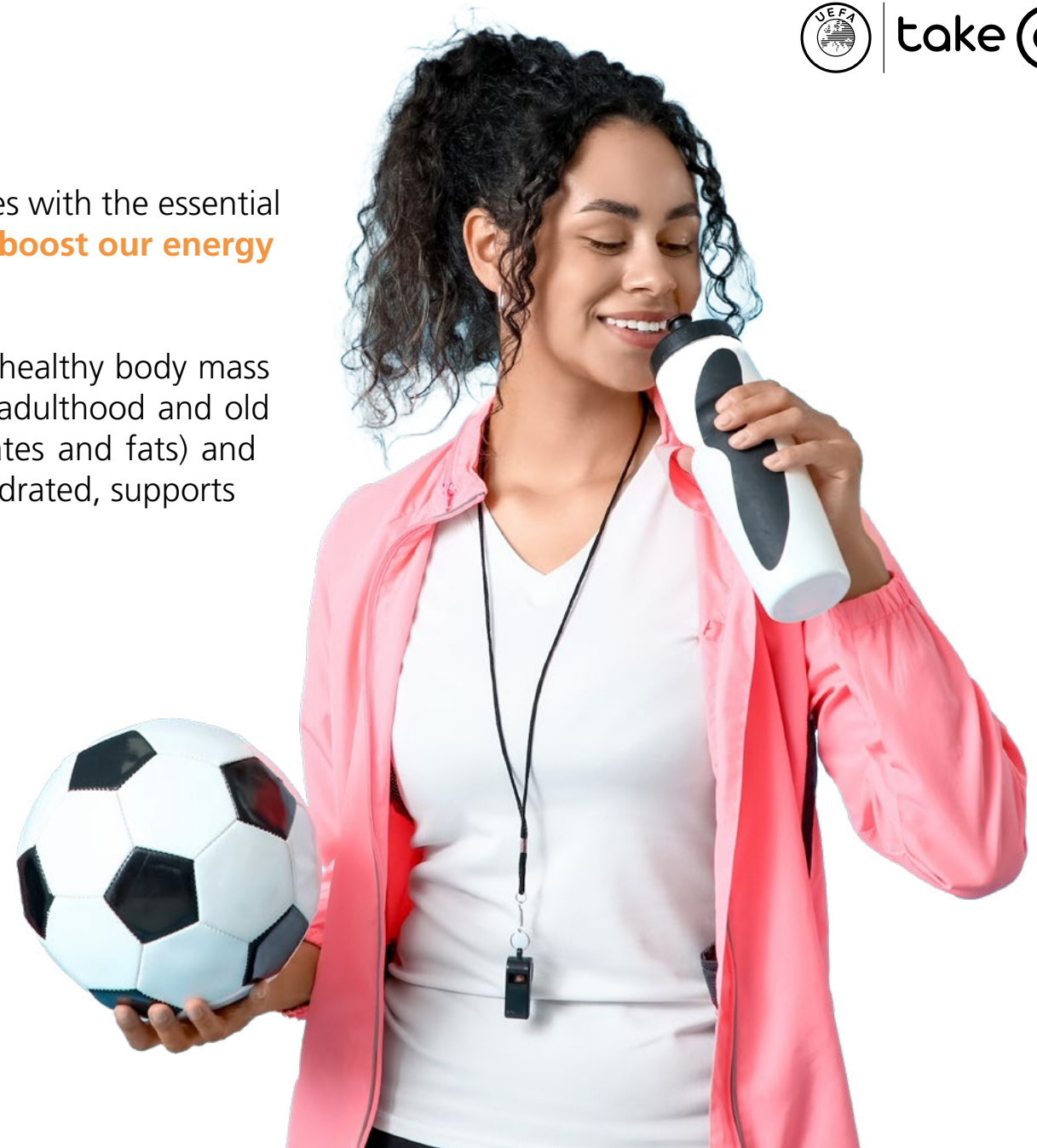
8. References

1. INTRODUCTION

Nutrition is the cornerstone of a healthy lifestyle, providing our bodies with the essential nutrients needed to function optimally. Making mindful food choices can **boost our energy levels, improve our mood and support our overall well-being**.

Good eating habits bring numerous benefits such as better circulation, a healthy body mass and improved bone density, which can lower the risk of [osteoporosis](#) in adulthood and old age. A balanced diet includes both [macronutrients](#) (proteins, carbohydrates and fats) and [micronutrients](#) (vitamins and minerals). This balance, along with staying hydrated, supports body growth and maximises athletic capabilities.

ADEQUATE NUTRITION COMBINED WITH FOOTBALL, OR ANOTHER SPORT, IS HIGHLY ADVANTAGEOUS AT ANY AGE, IMPROVING BOTH PHYSICAL AND MENTAL HEALTH



2. ASSESSING THE RISKS

In modern society, our perception of health risks is distorted by misinformation. **The number of people who are overweight or obese is increasing progressively as a result of unhealthy lifestyles, including poor food and drink choices and insufficient physical exercise.**¹

Navigating the food industry has become increasingly complicated for several reasons. Sometimes, strong marketing campaigns promote unhealthy food choices, making them seem more attractive and convenient. Additionally, easy access to processed and fast foods makes it difficult for individuals to maintain a balanced diet. Taken together, these factors represent a major threat to our health, leading to an increase in diet-related illnesses and a general decline in well-being.

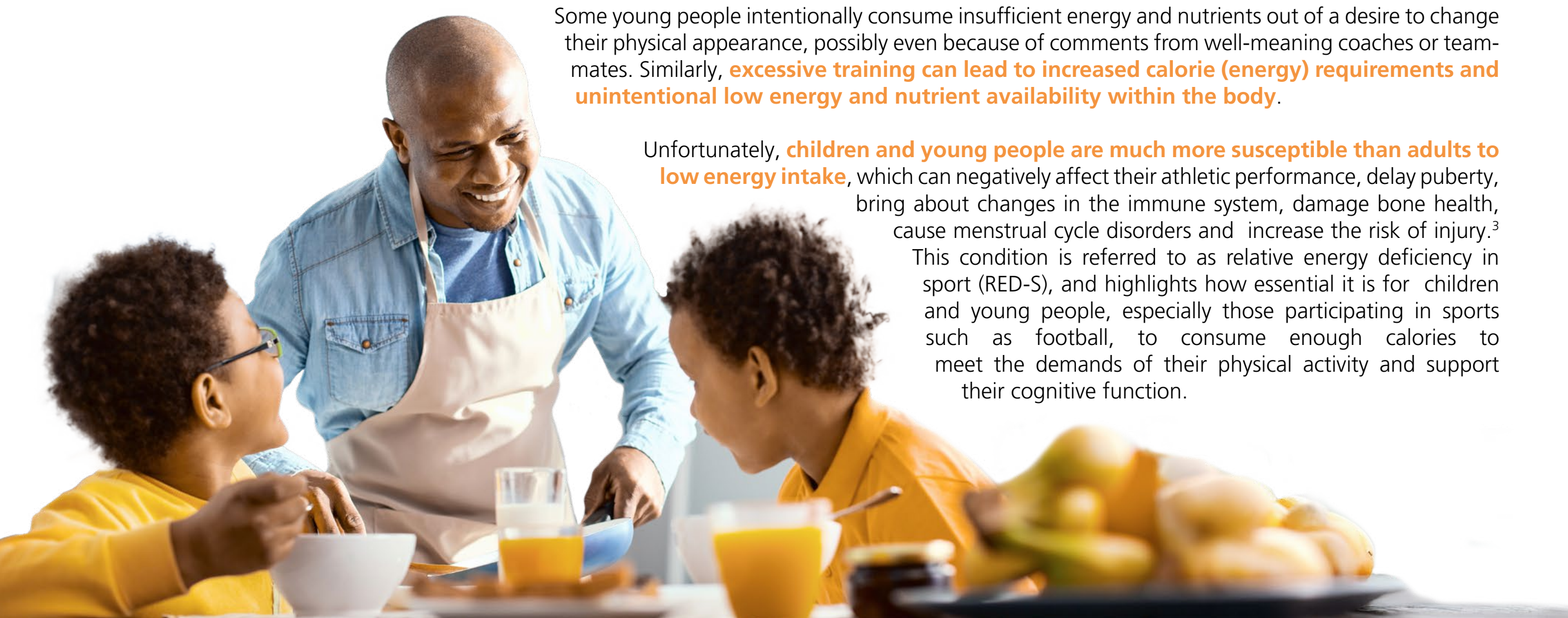
For example, excessive consumption of sugar, salt and fats can have harmful effects on physical and mental health. High sugar consumption is linked to [obesity](#), [diabetes](#) and dental problems, while too much salt can lead to high blood pressure and [cardiovascular disease](#). Over-consumption of fats, particularly saturated fats, can contribute to weight gain and increase the risk of heart disease.

Moreover, in sports, **many young athletes consume energy drinks to improve their performance and endurance, paying little attention to the recommended minimum age.** These drinks are rich in [carnitine](#), caffeine and sugar, and excessive consumption can be particularly harmful to young people, causing sleep disorders, anxiety and heart palpitations.

The best way to stay hydrated is drinking water, which is essential for various bodily functions. A sufficient quantity of water should therefore be drunk every day to prevent dehydration and ensure that the body functions properly.

PROPERLY INFORMED PARENTS AND COACHES PLAY A CRUCIAL ROLE IN FILTERING THE INFORMATION THAT CHILDREN GET FROM COMMERCIALS AND SHAPING THEIR EATING HABITS

Moreover, parents – but also key staff – are essential in selecting the best products, providing balanced meals and avoiding unhealthy foods.² Positive reinforcement, by praising nutritious food and drink choices, can also be helpful.



Some young people intentionally consume insufficient energy and nutrients out of a desire to change their physical appearance, possibly even because of comments from well-meaning coaches or teammates. Similarly, **excessive training can lead to increased calorie (energy) requirements and unintentional low energy and nutrient availability within the body.**

Unfortunately, **children and young people are much more susceptible than adults to low energy intake**, which can negatively affect their athletic performance, delay puberty, bring about changes in the immune system, damage bone health, cause menstrual cycle disorders and increase the risk of injury.³ This condition is referred to as relative energy deficiency in sport (RED-S), and highlights how essential it is for children and young people, especially those participating in sports such as football, to consume enough calories to meet the demands of their physical activity and support their cognitive function.

3. NUTRITIONAL PLAN

Properly feeding children who practice any physical activity, and specifically young footballers, requires a nutritional plan that provides the right amount of energy (calories) from the three basic macronutrient groups: **fats, proteins** and **carbohydrates**.

a. Macronutrients

FATS are not simply stored in the body for no reason. **This macronutrient is very useful for energy production and the transport of vitamins A, D, E and K around the body.** In fact, fat is a fundamental part of cell membranes and protects nerve tissue and the brain. However, some fats are much better than others for physical growth in general and for improving sporting performance: the healthiest are unsaturated fats, which can be found in foods like extra virgin olive oil, hazelnut oil, oily fish and avocados.

Saturated fats, on the other hand, which come from animal products like butter, lard and fatty meat (especially red meat), are healthy in moderation but can become harmful if consumed in excessive quantities, as they can increase the level of undesirable low-density lipoprotein cholesterol in the blood.

Finally, trans fats, also called hydrogenated fats, are to be avoided. They can be found in, for example, industrially-produced snacks, fried foods and fast food. Consuming too many commercial snacks, which are often formulated with a particularly satisfying ratio of fat, sugar and salt known as the 'bliss point', can lead to overeating and food addiction.⁴

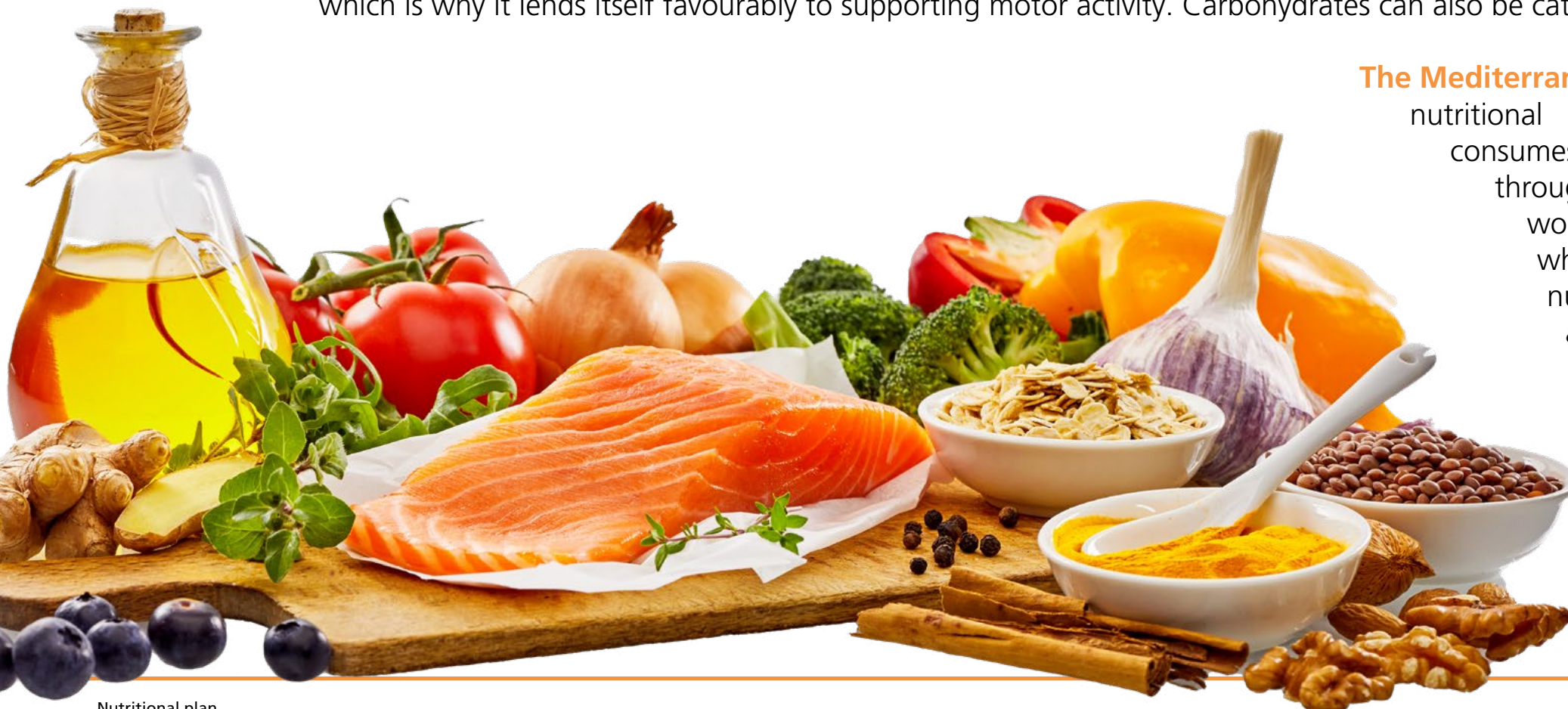
PROTEINS are highly complex substances present in all living organisms. They **are of great nutritional value and directly involved in the chemical processes essential for life.** They support increased muscle mass and strength and are essential in building and repairing tissues, producing enzymes and hormones and supporting immunity.⁵

This macronutrient group should be consumed evenly across all meals, rather than all in one go, in foods like meat, fish, eggs, legumes, milk, tofu, yoghurt and nuts.

CARBOHYDRATES are vital for providing the body with energy, as they are the primary fuel source for the brain and muscles. **They are essential for performance, preventing fatigue and dehydration.**

This nutrient provides four calories per gram, just like protein, but the ease with which it is used by the body for energy is much greater, which is why it lends itself favourably to supporting motor activity. Carbohydrates can also be categorised by their [glycaemic index](#).

The Mediterranean diet is an example of a healthy nutritional regimen whereby an individual consumes all the essential macronutrients through a variety of foods.⁶ While the word 'diet' alone should be avoided when talking to young people about nutrition, as it could be interpreted as a restriction on intake, the term 'Mediterranean diet' represents a healthy approach to choice, quality and quantity of food. It has been shown to favourably influence not only sports performance but also school performance.⁷

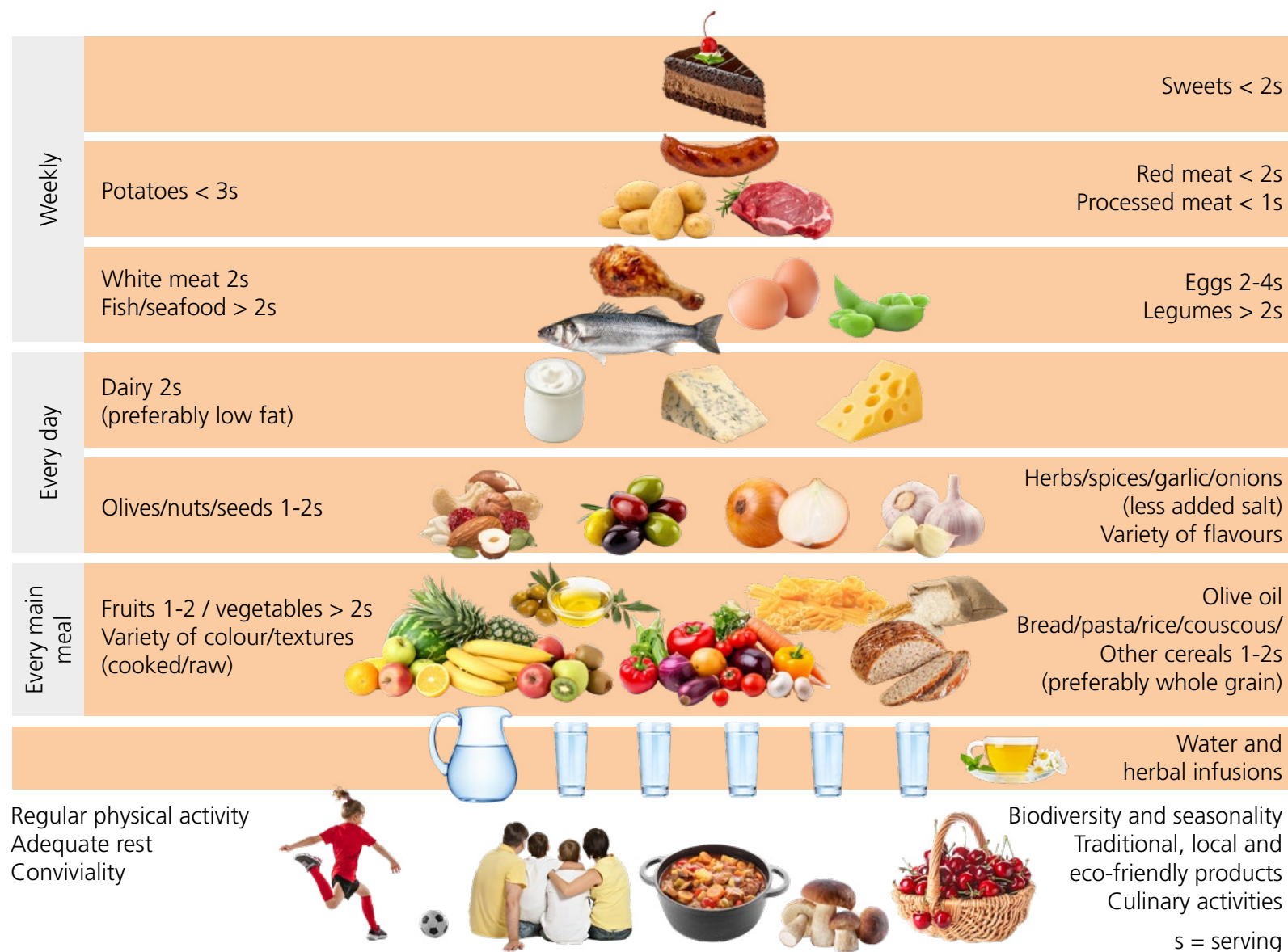


b. Micronutrients

In contrast to macronutrients, micronutrients do not provide calories but enable the body to function normally. Vitamins, minerals and antioxidants, particularly iron, calcium and vitamin D, are all needed in high quantities, especially during puberty or when practising a physical activity like football.

A healthy eating plan, like one based on the Mediterranean diet, should also include plenty of **wholemeal foods, fruits, vegetables and legumes** to ensure a sufficient intake of fibre and specific intestinal bacteria linked to the recovery, performance and general health of people who play sport.⁸

**FOR A HEALTHIER LIFESTYLE,
ADOPT THE MEDITERRANEAN
DIET PYRAMID AS A GUIDE
TO BALANCED EATING**



c. Water

Another nutrient often not adequately considered is water. **The human body is made up of around 60% water**, which makes it fundamental to all of our body's biological activities, from [thermoregulation](#) to aiding digestion and oxygenation of the whole body.⁹



How much an individual needs to hydrate depends on their size, the intensity and duration of activity, the environmental temperature and the amount of fluid lost during exercise. It is generally recommended to drink one glass of water (approx. 250ml) every 15 to 20 minutes while training.¹⁰ Muscles are mainly made of water, so

staying hydrated helps to reduce fatigue and promote muscle development. Remember that the body is already experiencing mild dehydration when you first feel thirsty.

According to [The European Food Safety Authority \(EFSA\)](#), the daily water intake recommendations for children and young people are as follows:

Age (years)	Girls (litres/day)	Boys (litres/day)
4–8	1.6	1.6
9–13	1.9	2.1
14–17	2.0	2.5

Dehydration – a condition resulting from the body losing more water (e.g. through sweating) than it takes in – can manifest in symptoms like headaches, fatigue and dizziness, meaning that it can negatively affect performance, focus and overall health.






Everybody, especially children and older people, should stay hydrated throughout the day. This is particularly important, when exercising, as it increases the risk of dehydration.

4. GLYCAEMIC INDEX

The glycaemic index (GI) is a value that expresses how quickly foods containing carbohydrates raise the concentration of glucose in the blood.¹¹

- Foods with a **low GI are digested and absorbed slowly**, allowing for consistent energy release.

- Foods with a **high GI are digested and absorbed quickly**, leading to a rapid rise in blood sugar levels and then followed by a rapid 'crash' and tiredness.

<ul style="list-style-type: none"> • White bread, donuts, baguettes, crackers, waffles • White rice, boiled or mash potatoes, chips • Cornflakes 		<p>70-100</p>
<ul style="list-style-type: none"> • Rye & wholegrain bread • Muesli, corn, couscous, brown rice, spaghetti, popcorn, yams • Ice cream, flavoured yogurt • Banana, grapes, kiwi 		<p>50-70</p>
<ul style="list-style-type: none"> • Coarse barley bread • Strawberries, apples, pears, oranges • Milk & soy milk • Natural yoghurt • Oatmeal, beans 		<p>30-50</p>
<ul style="list-style-type: none"> • Pearled barley, lentils • Cherries, apricots, plums • Dark chocolate (at least 70% cocoa solids) • Whole milk • Cashews, walnuts 		<p>10-30</p>
<ul style="list-style-type: none"> • Hummus, chickpeas • Garlic, onion, green peppers • Aubergine, broccoli, cabbage, tomatoes • Mushrooms • Lettuce 		<p>0-10</p>

Before training and during the day, young people need low and medium-GI foods, while at the end of training and matches, high-GI foods should be eaten. The requirements also vary from day to day depending on the level of training; these graphics from the **United States Olympic and Paralympic Committee (USOPC)** illustrate how an **athlete's plate** should be divided up depending on the level of exertion effort each day:¹²



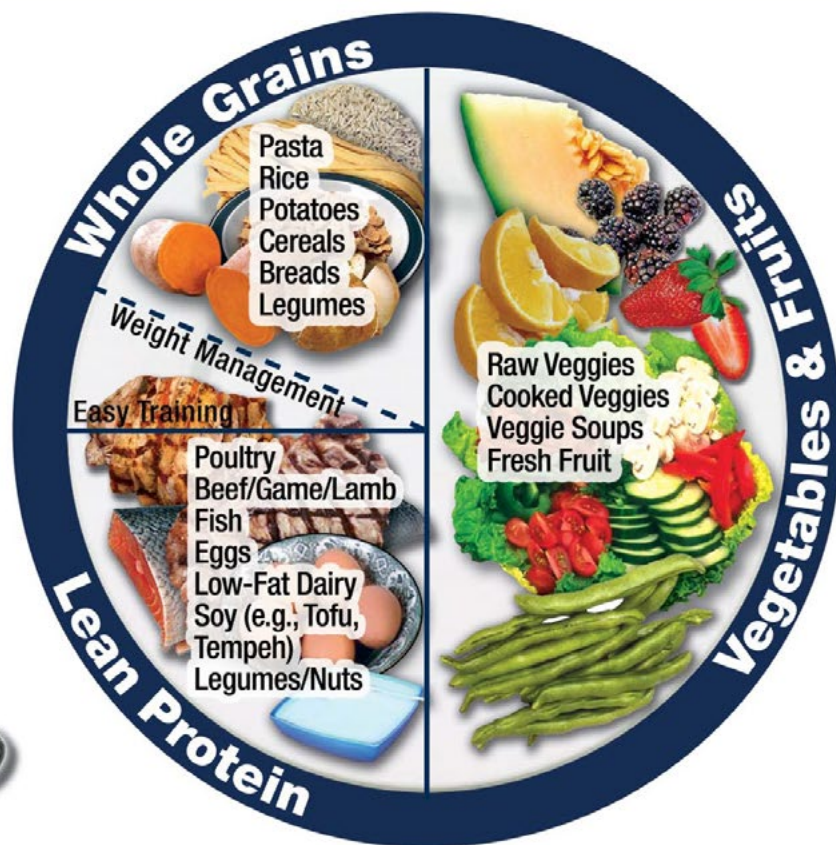
EASY TRAINING / WEIGHT MANAGEMENT:

FATS

1 Teaspoon



Avocado
Oils
Nuts
Seeds
Cheese
Butter



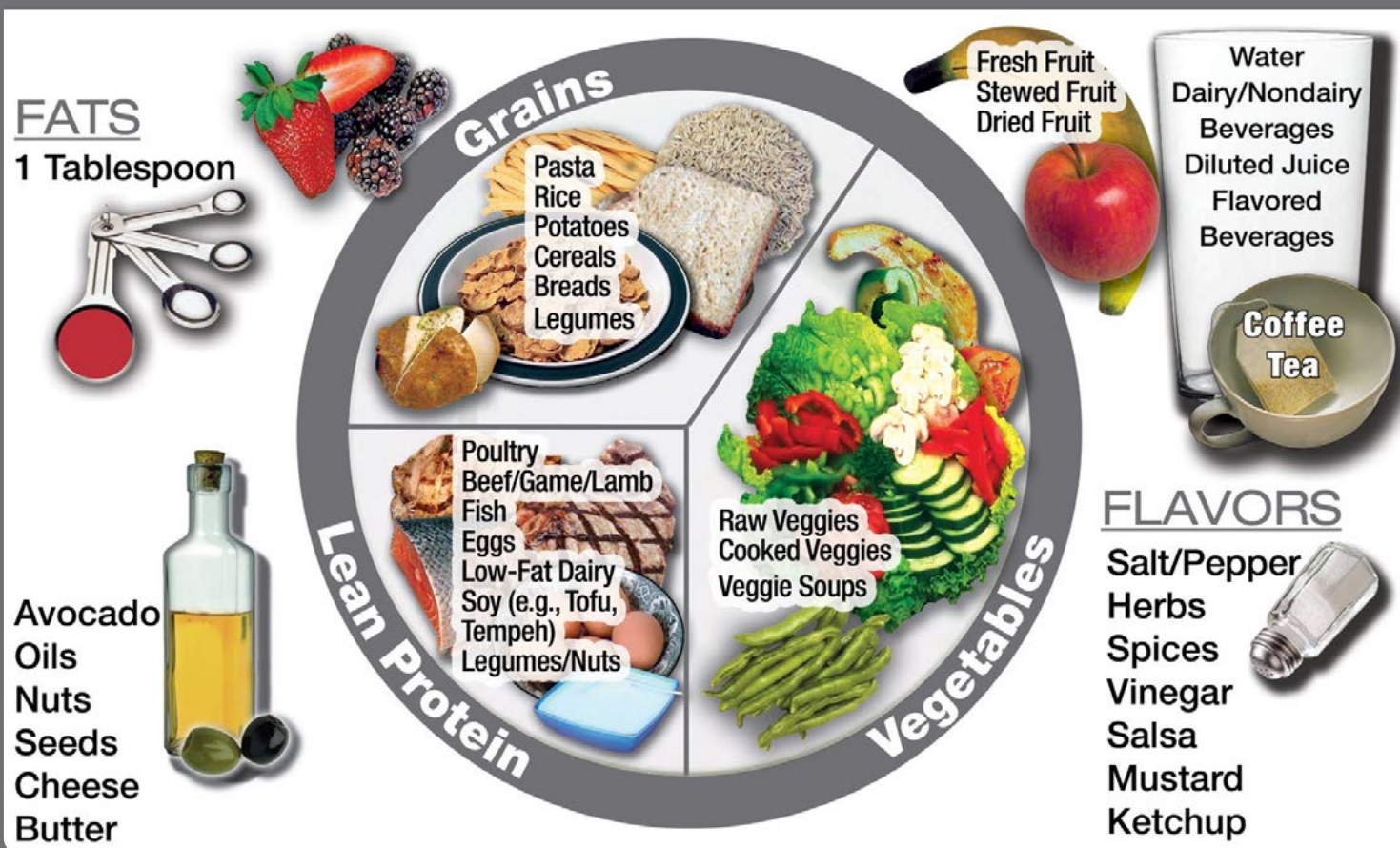
FLAVORS

Salt/Pepper
Herbs
Spices
Vinegar
Salsa
Mustard
Ketchup



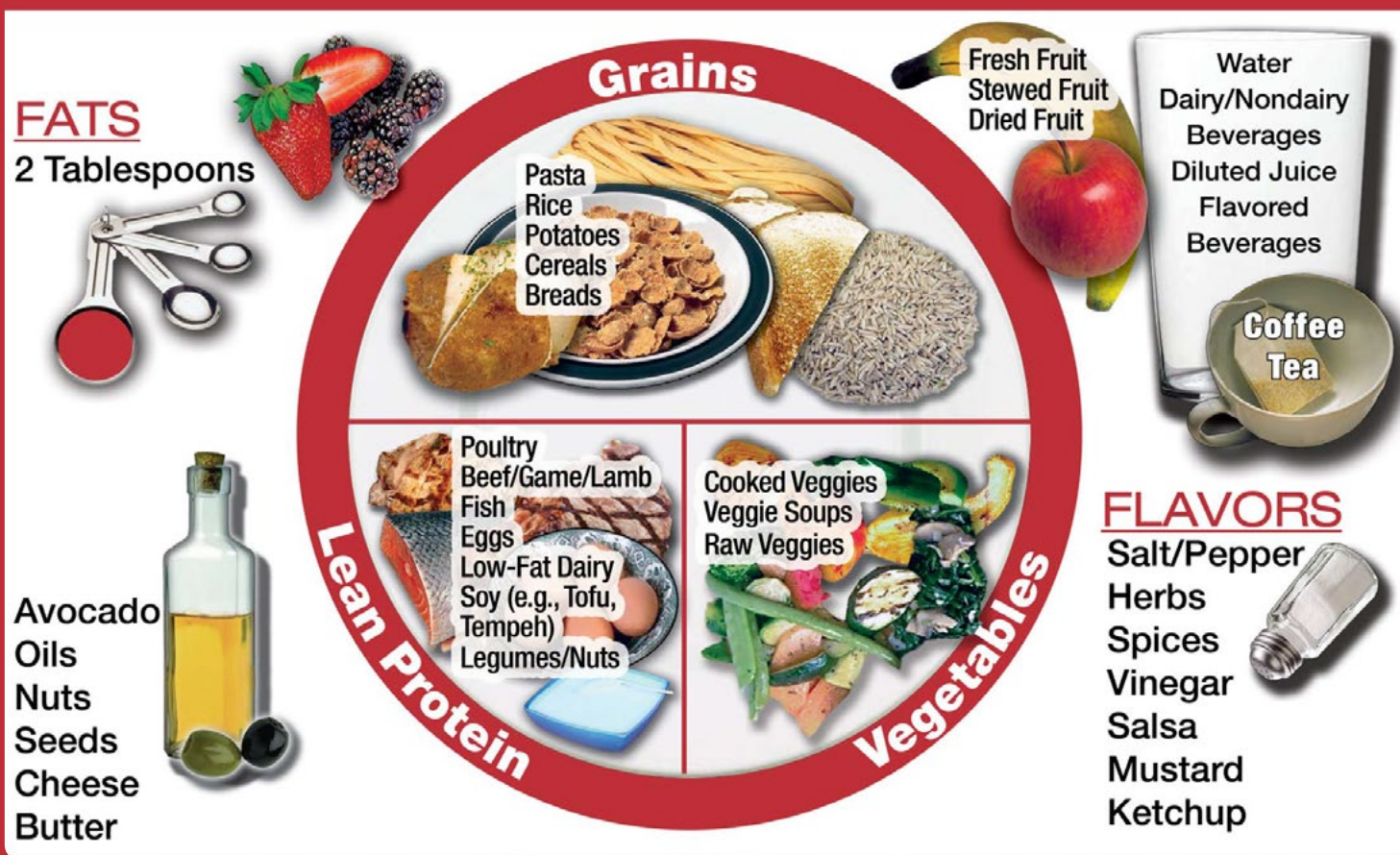
On an easy training day, the workout might be light or less intense. There's no need to increase energy and nutrient intake for competition. These meals are also suitable for athletes aiming to lose weight or those competing in sports that require less energy.

MODERATE TRAINING:



A moderate training day might include two sessions: one focusing on technical skills and the other on endurance or strength. This day serves as the baseline for adjusting the nutrition plan down for easy days or up for hard days.

HARD TRAINING / RACE DAY:



FATS
2 Tablespoons

Avocado
Oils
Nuts
Seeds
Cheese
Butter

Grains

Pasta
Rice
Potatoes
Cereals
Breads

Fresh Fruit
Stewed Fruit
Dried Fruit

Water
Dairy/Nondairy
Beverages
Diluted Juice
Flavored
Beverages

Coffee
Tea

Lean Protein

Poultry
Beef/Game/Lamb
Fish
Eggs
Low-Fat Dairy
Soy (e.g., Tofu,
Tempeh)
Legumes/Nuts

Vegetables

Cooked Veggies
Veggie Soups
Raw Veggies

FLAVORS

Salt/Pepper
Herbs
Spices
Vinegar
Salsa
Mustard
Ketchup

A hard training day involves at least two challenging workouts or a competition. If the competition requires extra carbohydrates, this nutrition plan can be used to fuel up before, during and after the event.



Food selection for young people and athletes is not fixed and must be adapted to age, sex and intensity of training and competition. For example, a 30kg girl playing 60 minutes of football needs about 300 calories, whereas a 60kg boy playing 60 minutes of ice hockey needs almost 1000 calories.¹³

YOUNG ATHLETES, ESPECIALLY FOOTBALLERS, NEED FUEL NOT ONLY FOR TRAINING BUT ALSO FOR PHYSICAL GROWTH AND DEVELOPMENT

It is important for parents and coaches to be aware that adolescents consume about 25% more calories than adults engaging in similar levels of physical activity. This means that even if they are overweight, they should not be put on a calorie restriction plan.¹⁴

The table below gives the recommended energy requirements by age and gender per day.

Daily calorie needs based on age, gender and physical activity level:¹⁵

Male				Female			
Age	Sedentary*	Moderately Active**	Active***	Age	Sedentary	Moderately Active	Active
2	1,000	1,000	1,000	2	1,000	1,000	1,000
3	1,000	1,400	1,400	3	1,000	1,200	1,400
4	1,200	1,400	1,600	4	1,200	1,400	1,400
5	1,200	1,400	1,600	5	1,200	1,400	1,600
6	1,400	1,600	1,800	6	1,200	1,400	1,600
7	1,400	1,600	1,800	7	1,200	1,600	1,800
8	1,400	1,600	2,000	8	1,400	1,600	1,800
9	1,600	1,800	2,000	9	1,400	1,600	1,800
10	1,600	1,800	2,200	10	1,400	1,800	2,000
11	1,800	2,000	2,200	11	1,600	1,800	2,000
12	1,800	2,200	2,400	12	1,600	2,000	2,200
13	2,000	2,200	2,600	13	1,600	2,000	2,200
14	2,000	2,400	2,800	14	1,800	2,000	2,400
15	2,200	2,600	3,000	15	1,800	2,000	2,400
16	2,400	2,800	3,200	16	1,800	2,000	2,400
17	2,400	2,800	3,200	17	1,800	2,000	2,400
18	2,400	2,800	3,200	18	1,800	2,000	2,400
19-20	2,600	2,800	3,000	19-20	2,000	2,200	2,400
21-25	2,400	2,800	3,000	21-25	2,000	2,200	2,400

***Sedentary** refers to a lifestyle that involves only the physical activities necessary for daily living.

****Moderately active** describes a lifestyle that includes physical activities comparable to walking about 2 to 5 kilometers per day, in addition to daily living activities. This could be equivalent to engaging in a 30-minute session of moderate-intensity activity like walking, cycling, or playing doubles tennis.

*****Active** signifies a lifestyle that incorporates physical activities equivalent to walking more than 5 kilometers per day, in addition to daily living activities. This could be similar to participating in an hour-long session of high-intensity activity such as playing football, running, or swimming laps.

It should be noted that, while UEFA promotes gender-neutral language, documents from external sources are quoted without adaptation.

5. PRACTICAL ACTIONS

FOR PARENTS AND CAREGIVERS

1

PROMOTE HEALTHY EATING

by offering nutritious foods to your children, teaching them the value of making healthy food choices and setting a good example



5

AVOID GIVING YOUR CHILD UNHEALTHY SNACKS, energy drinks and sugary drinks, and pay attention to age recommendations



2

TEACH YOUR CHILDREN TO RECOGNISE THE SIGNS OF DEHYDRATION

see [Good practices](#) and remind them to drink water before, during and after training



6

DON'T MAKE NEGATIVE COMMENTS ABOUT PEOPLE'S PHYSICAL APPEARANCE – we are all unique and we should respect each other's unique characteristics

3

CREATE BALANCED AND NUTRITIOUS MENUS

opt for healthy fats, high-protein foods from diverse sources and nutrient-dense fruits and vegetables to ensure a balanced and beneficial diet



7

DON'T BE TOO RESTRICTIVE: letting children and young people freely choose 20% of what they eat helps to steer them towards wellness and away from overly negative perceptions of unhealthy food



4

PLAN WEEKLY MENUS according to your child's schedule and physical activity commitments to ensure that their nutritional needs are met throughout the week



8

SEEK PROFESSIONAL HELP if you observe any concerning or unusual symptoms or behaviour



5. PRACTICAL ACTIONS

FOR COACHES AND STAFF



1

PROMOTE HEALTHY EATING: teach the importance of making healthy choices and lead by example to foster positive eating habits and behaviours that support children's growth and development



2

TEACH YOUR PLAYERS TO RECOGNISE THE SIGNS OF DEHYDRATION and make sure they drink enough water before, during and just after training (see [Good practices](#))

3

BE MINDFUL OF YOUR PLAYERS' WELL-BEING and don't make them push themselves too hard



4

DON'T MAKE NEGATIVE COMMENTS ABOUT PEOPLE'S PHYSICAL APPEARANCE – we are all unique and we should respect each other's unique characteristics

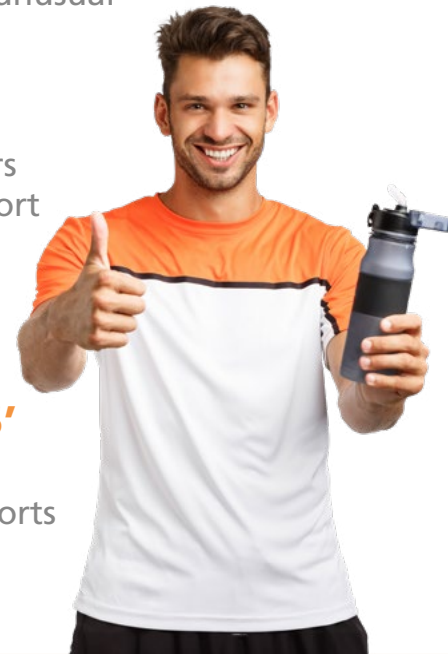


5

CONSULT THE PARENT OR CAREGIVER AND ADVISE THEM TO SEEK PROFESSIONAL HELP if you observe any concerning or unusual symptoms or behaviours

6

ENCOURAGE REST: encourage players to get adequate rest and recovery to support their physical and mental well-being



7

MONITOR YOUR PLAYERS' NUTRITION to ensure they are getting a balanced diet that supports their training and overall health

5. PRACTICAL ACTIONS

FOR CHILDREN AND YOUNG PEOPLE



1 LEARN TO RECOGNISE THE SIGNS OF DEHYDRATION and drink enough water (2–2.5l) throughout the day, especially when training (see [Good practices](#))



2 PRIORITISE FOODS DENSE IN NUTRIENTS such as vitamins, minerals and antioxidants; every meal should include fruit and vegetables, which are rich in valuable nutrients

3 CONSUME HIGH-PROTEIN FOODS from a variety of sources, such as meat, fish, eggs, pulses, milk, tofu, yoghurt and nuts – different proteins perform different functions and offer different benefits



4 OPT FOR HEALTHY UNSATURATED FATS and avoid trans fats, also known as hydrogenated fats



5 AVOID UNHEALTHY PRODUCTS including sugary fizzy drinks and salty snacks such as crisps, which are of little nutritional value

6 DON'T MAKE NEGATIVE COMMENTS ABOUT PEOPLE'S PHYSICAL APPEARANCE – we are all unique and we should respect each other's unique characteristics



6. GOOD PRACTICES

- Phase 1: Before physical activity
- Phase 2: During physical activity
- Phase 3: After physical activity
- Phase 4: In the event of dehydration

Phase 1: Before physical activity

It is important to **adjust the eating schedule to support athletic performance and energy levels.**

If time permits, it is suggested to eat a proper meal such as basmati rice with legumes, wholemeal pasta with tomato sauce and cheese, or chicken and sweet potatoes two to four hours before physical activity.

If eating less than an hour before training or a match, it is better to opt for a quick snack rather than a full meal. Plain yoghurt with honey and fruit, a wholemeal sandwich containing chicken, fish, cheese, eggs or vegetables or a dehydrated fruit and nut bar are all good options. It should be washed down with one or two glasses of water (approximately 500ml).

Phase 2: During physical activity

Proper hydration and energy management contribute significantly to performance and well-being.

It is essential to take breaks every 15–20 minutes to drink water. In longer events like matches or tournaments, staying hydrated and taking on energy is crucial. Diluted fruit juices, cereal bars and sultanas are all good options that can help maintain the necessary energy levels throughout the game or competition.





Phase 3: After physical activity

Focusing on recovery and hydration is fundamental for young players, most importantly by drinking at least two glasses of water (around 500ml). If possible, drinking skimmed milk with cocoa powder or a banana, walnut and honey smoothie made with either skimmed milk or low-fat Greek yoghurt will help replenish liquids.

Once hydrated, players should eat a **balanced post-training meal to recover the energy expended**. [High-GI carbohydrates](#) paired with protein, vegetables, fats and fruit are easy to digest. The following are examples of balanced meals offering variety and all the nutrients necessary for recovery and performance enhancement:

- Mashed potato with chicken meatballs in tomato sauce and a salad dressed with olive oil and a fruit salad
- Saffron risotto with white meat skewers or a vegetable burger, followed by ice cream with strawberries
- Potato dumplings with tomato sauce, chicken bites with soy sauce or ratatouille dressed with olive oil, followed by a ricotta mousse with honey, chocolate and walnuts

Phase 4: In the event of dehydration

Dehydration not only reduces physical performance and recovery, **it can also put an individual's health at risk**, especially children and the elderly. Everyone should know the warning signs for dehydration, which include, in order of severity:

- Breathlessness and premature fatigue during exercise
- Very reddened skin
- Headache
- Dizziness
- Shortness of breath
- Disorientation

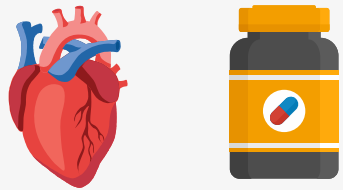
If the symptoms are severe, seek medical attention and in the meantime drink about 150ml of a sports drink or a mixture of water and sugar every ten minutes.



7. GLOSSARY

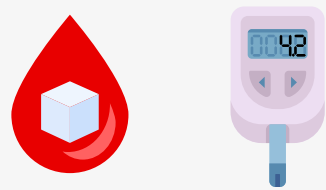
CARDIOVASCULAR DISEASE

is any condition affecting the heart and the blood vessel system (including arteries, capillaries, and veins) throughout a person's body.



DIABETES

is a disease characterised by elevated blood glucose levels owing to insufficient insulin production or ineffective use of insulin (the hormone needed to regulate blood sugar). Diabetes can present a wide range of symptoms from mild to severe, making early detection essential.



GLYCAEMIC INDEX

is a value that expresses how quickly foods containing carbohydrates raise the concentration of glucose in the blood.



MACRONUTRIENTS

are the nutrients required for energy and body function.



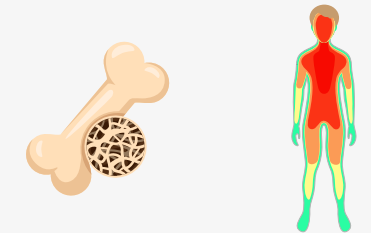
OBESITY

refers to an abnormal or excessive fat accumulation that presents a risk to health and can lead to complications such as diabetes or heart disease.



THERMOREGULATION

is the process by which the body maintains a stable and ideal body temperature.



CARNITINE

is a substance that helps move fatty acids into cells so they can be used to make energy, especially in muscles.

GLUCOSE

refers to the sugar present in the blood. It is an essential source of energy, but maintaining balanced blood sugar levels is crucial.

HIGH-GI CARBOHYDRATES

are carbohydrates that quickly raise blood sugar levels thanks to their rapid digestion and absorption.

MICRONUTRIENTS

are the essential vitamins and minerals needed for various physiological functions and overall well-being.

OSTEOPOROSIS

is a medical condition in which the bones become brittle and fragile, increasing the risks of fractures.

8. REFERENCES

1. Lee, M. (2019). Research trends in obesity & obesogenic environments in Korea. *Nutrition Research and Practice*, 13(6), 461. <https://doi.org/10.4162/nrp.2019.13.6.461>
2. Wärnberg, J., Pérez-Farinós, N., Benavente-Marín, J. C., Gómez, S. F., Labayen, I., Zapico, A. G., Gusi, N., Aznar, S., Alcaraz, P. E., González-Valeiro, M., Serra-Majem, L., Terrados, N., Tur, J. A., Segú, M., Lassale, C., Homs, C., Osés, M., González-Gross, M., Sánchez-Gómez, J., . . . Barón-López, F. J. (2021). Screen time and parents' education level are associated with poor adherence to the Mediterranean diet in Spanish children and adolescents: The PASOS study. *Journal of Clinical Medicine*, 10(4), 795. <https://doi.org/10.3390/jcm10040795>
3. Nattiv, A., Loucks, A. B., Manore, M. M., Sanborn, C. F., Sundgot-Borgen, J., & Warren, M. P. (2007). The female athlete triad. *Medicine & Science in Sports & Exercise*, 39(10), 1867–1882. <https://doi.org/10.1249/mss.0b013e318149f111>
4. Vanhemer K. (2013). How junk food is engineered to be hopelessly addicting. *Fast Company*. <https://www.fastcompany.com/1671920/how-junk-food-is-engineered-to-be-hopelessly-addicting>
5. Phillips, S. M. (2012). Dietary protein requirements and adaptive advantages in athletes. *British Journal of Nutrition*, 108(S2), S158–S167. <https://doi.org/10.1017/s0007114512002516>
6. Bonci, L. (2010). Sports nutrition for young athletes. *Pediatric Annals*, 39(5), 300–306. <https://doi.org/10.3928/00904481-20100422-11>
7. Tapia-Serrano, M. A., Esteban-Cornejo, I., Rodriguez-Ayllon, M., Vaquero-Solís, M., Sánchez-Oliva, D., & Sánchez-Miguel, P. A. (2021). Adherence to the Mediterranean diet and academic performance in adolescents: Does BMI status moderate this association? *Clinical Nutrition*, 40(6), 4465–4472. <https://doi.org/10.1016/j.clnu.2020.12.036>
8. Madsen, M. T. B., Landberg, R., Nielsen, D. S., Zhang, Y., Anneberg, O. M. R., Lauritzen, L., & Damsgaard, C. T. (2023). Effects of wholegrain compared to refined grain intake on cardiometabolic risk markers, gut microbiota and gastrointestinal symptoms in children: A randomized crossover trial. *American Journal of Clinical Nutrition*, 119(1), 18–28. <https://doi.org/10.1016/j.ajcnut.2023.10.025>
9. Madigan, S. & Coaching Ireland. (n.d.). Hydration. In A. Rossiter (Ed.), *Coaching Ireland: The Lucozade Sport Education Programme*. https://www.sportireland.ie/sites/default/files/2019-11/hydration-you-are-what-you-drink_0.pdf
10. Stanford Medicine. (n.d.). Hydration tips for young athletes. <https://www.stanfordchildrens.org/content/dam/sch/content-public/services/pdf/sports-hydration-tips-stanford-childrens.pdf>
11. Esfahani, A., Wong, J. M., Mirrahimi, A., Srichaikul, K., Jenkins, D. J., & Kendall, C. W. (2009). The glycemic index: Physiological significance. *Journal of the American College of Nutrition*, 28(sup4), 439S–445S. <https://doi.org/10.1080/07315724.2009.10718109>
12. USOPC. (n.d.). <https://www.usopc.org/nutrition>
13. McDowall J. A. (2007). Supplement use by young athletes. *Journal of sports science & medicine*, 6(3), 337–342. <https://pubmed.ncbi.nlm.nih.gov/24149420/>
14. Nisevich, P. M. (2008). Sports nutrition for young athletes. *IDEA Fitness Journal*, 65–67.
15. U.S. Department of Health and Human Services and U.S. Department of Agriculture. (2015). 2015 – 2020 Dietary Guidelines for Americans. https://odphp.health.gov/sites/default/files/2019-09/2015-2020_Dietary_Guidelines.pdf

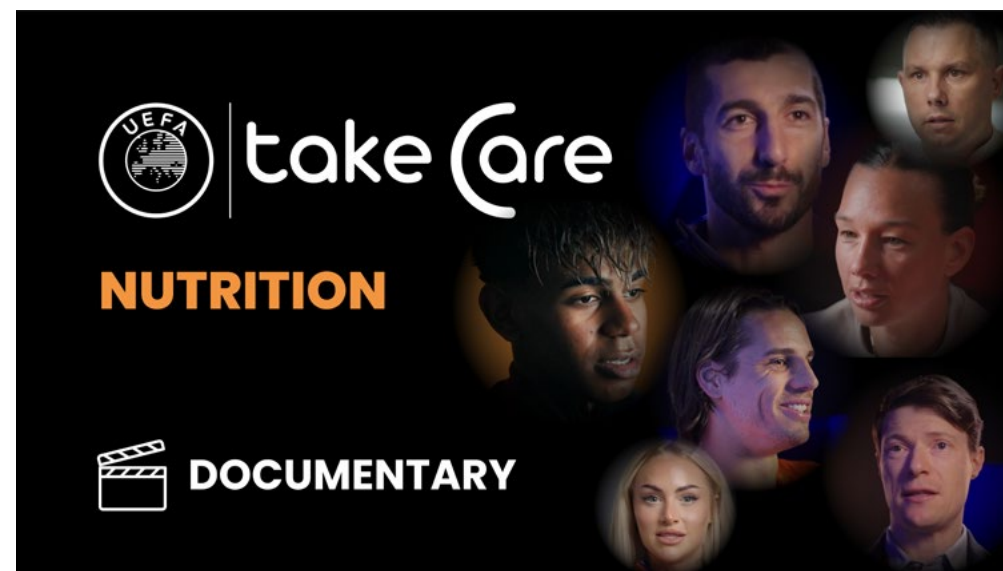
Podcasts:

- [Institute of Performance Nutrition, Episode 167: Football Nutrition – Science to Practice](#)
- [Healthy Family Project, Episode 83: Sports Nutrition for Kids and Teens](#)

Videos:

- [Match-Day Nutrition For Football: What to Eat Pre-/Mid-/Post-Game](#)
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Matteo Pincella is a biologist and nutritionist. He is also the co-founder of the European sport nutrition society and the President of the Italian Commission of Biologists for Sports Nutrition. His career began in 2003 at Rugby Viadana, where he progressed to head athletic trainer by 2009. He then became the nutritionist for Juventus in 2012, focusing on nutrition, recovery and supplementation. Since 2016, he has been the nutritionist for the Italian national football team and head of the nutrition department. In 2019, he also became head of the nutrition unit for FC Internazionale Milano. Matteo's work integrates nutrition and athletic performance, driven by a holistic understanding of the human body.