

Essential Nutrition Tips for Young Football Players

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Abstract

This article explores the fundamental role of nutrition in supporting the performance, growth, and overall well-being of young football players. It highlights the importance of a balanced diet that meets the elevated energy and nutrient demands of youth athletes engaged in high-intensity training.

The paper discusses essential macronutrients — carbohydrates, proteins, and fats — alongside the importance of hydration and micronutrients such as calcium, iron, and vitamin D. Proper meal timing before, during, and after training is emphasised to optimise energy levels and enhance recovery. Common dietary mistakes, including meal skipping, dehydration, and overreliance on processed foods or supplements, are also examined.

Evidence from current sports nutrition research demonstrates that informed dietary practices can improve athletic performance and reduce injury risk.

Ultimately, the article underscores the need for education among young athletes, parents, and coaches to promote sustainable, evidence-based nutrition habits that support both sporting excellence and long-term health.

Keywords: sports nutrition, youth football, athletic performance, hydration, recovery.

JEL Classification: I10, I11

DOI: 10.24818/mrt.25.17.02.04

1. Introduction

Football is one of the most physically demanding sports, requiring a blend of strength, speed, endurance, and technical skill. For young football players, proper nutrition is a key factor that influences not only performance but also healthy growth, recovery, and long-term development (Bean, 2022). As young athletes are still growing, their energy and nutrient requirements are higher relative to their body size than those of adults (Burke & Deakin, 2015). A well-balanced diet provides the essential fuel to sustain training intensity, enhance cognitive concentration during matches, and support muscle repair after exercise (Thomas, Erdman & Burke, 2016).

The nutritional needs of young football players are influenced by several factors, including age, gender, training load, and stage of physical development (Phillips & Van Loon, 2011). Carbohydrates are particularly important as the body's

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primary energy source, helping to maintain blood glucose levels and delay fatigue during prolonged activity (Burke et al., 2011). Protein plays a crucial role in muscle repair and adaptation, while healthy fats provide a concentrated energy source and support hormone regulation and brain function (Jeukendrup & Gleeson, 2019). Furthermore, adequate hydration before, during, and after exercise is essential to prevent dehydration, which can impair both physical and cognitive performance (Sawka et al., 2007).

Beyond immediate athletic performance, nutrition has a significant impact on injury prevention and long-term health outcomes. Inadequate energy or nutrient intake can lead to fatigue, reduced immunity, and increased susceptibility to injuries such as stress fractures or muscle strains (Mountjoy et al., 2018). Therefore, educating young footballers, parents, and coaches about evidence-based nutrition practices is vital for developing both healthy eating habits and strong, resilient athletes.

This article explores essential nutrition tips tailored for young football players, focusing on the balance of macronutrients, hydration strategies, and the importance of timing meals to optimise energy and recovery. By understanding the science behind nutrition, young players can build the foundation for lifelong health and sustained success on the pitch.

2. Understanding the Athlete's Needs

Young football players have unique nutritional needs due to the dual demands of athletic training and physical growth. Unlike adults, adolescents must balance the energy required for performance with the nutrients essential for healthy development. An appropriate diet supports optimal body composition, endurance, strength, and cognitive performance, all of which contribute to improved play on the field (Bean, 2022).

Energy Requirements

Energy intake must match the athlete's training intensity and duration. Football is a high-intensity, intermittent sport that combines periods of sprinting, jogging, and rapid directional changes, resulting in substantial energy expenditure (Stellingwerff et al., 2019). Inadequate caloric intake can lead to fatigue, impaired concentration, slower recovery, and, in severe cases, relative energy deficiency in sport (RED-S), which can negatively affect bone health, hormonal balance, and immunity (Mountjoy et al., 2018).

The total energy requirement varies depending on the player's age, sex, and level of physical activity. Typically, young male football players may require between 2,500–3,500 kcal per day, while females may need around 2,200–3,000 kcal, though individual needs differ significantly (Burke & Deakin, 2015). Energy should come from a balanced intake of carbohydrates, proteins, and fats, each contributing to different physiological functions.



Macronutrient Balance

Carbohydrates are the body's main source of energy for football training and competition. Consuming adequate carbohydrates (5–7 g/kg/day for moderate activity, or 7–10 g/kg/day during intensive training) helps maintain glycogen stores and delay fatigue (Burke et al., 2011).

Proteins are essential for muscle repair, recovery, and growth. Young athletes should aim for 1.4–1.8 g of protein per kilogram of body weight daily, sourced from lean meats, eggs, dairy products, legumes, and plant-based proteins (Phillips & Van Loon, 2011).

Fats play a key role in providing long-term energy, supporting hormone production, and aiding nutrient absorption. Healthy fats, such as those from avocados, nuts, seeds, and olive oil, should make up about 20–35% of total daily energy intake (Jeukendrup & Gleeson, 2019).

Hydration Needs

Hydration is another critical aspect of a young footballer's nutritional plan. Even mild dehydration (as little as 1–2% of body weight loss through sweat) can reduce endurance, coordination, and cognitive performance (Sawka et al., 2007). Athletes should begin training well-hydrated, consume fluids regularly throughout activity, and rehydrate afterwards. Water is usually sufficient, but during prolonged sessions or in hot weather, electrolyte-containing sports drinks may help replace sodium losses (Burke & Deakin, 2015).

Micronutrients and Growth

Vitamins and minerals such as calcium, iron, and vitamin D are particularly important for young athletes. Calcium and vitamin D support bone development, while iron is crucial for oxygen transport and energy metabolism (Rodriguez et al., 2009). Deficiencies in these nutrients can lead to decreased performance, fatigue, and increased injury risk. A varied diet rich in fruits, vegetables, dairy products, and whole grains typically meets these needs.

In summary, young football players require a diet that provides sufficient energy, balanced macronutrients, adequate hydration, and essential vitamins and minerals. Meeting these needs ensures not only optimal athletic performance but also supports healthy physical and mental development during adolescence.

3. Key Nutritional Components

For young football players, understanding the main nutritional building blocks — **carbohydrates, proteins, fats, vitamins, minerals, and fluids** — is essential for supporting both performance and overall health. Each nutrient plays a specific role in energy production, muscle function, and recovery. Balancing these components ensures that young athletes are properly fuelled for training and competition, while also meeting their developmental needs (Mănescu, C.O., 2008).



Carbohydrates: The Body's Primary Fuel Source

Carbohydrates are the most important source of energy for football players, providing the glucose required for muscle contractions during training and matches. During high-intensity activity, the body relies on stored glycogen in muscles and the liver, which can become depleted after 60–90 minutes of play (Burke et al., 2011).

To maintain optimal performance, young footballers should consume **5–7 g of carbohydrates per kilogram of body weight per day** during moderate training, and **7–10 g/kg/day** during more intense or prolonged sessions (Thomas, Erdman & Burke, 2016).

Good carbohydrate sources include:

Wholegrain bread, rice, and pasta

Potatoes and oats

Fruits such as bananas and apples

Vegetables and legumes

Simple sugars (such as fruit juices or sports drinks) can be useful before or during games for quick energy, but should be consumed in moderation to avoid blood sugar spikes (Jeukendrup & Gleeson, 2019).

Proteins: Building and Repairing Muscles

Protein supports muscle growth, tissue repair, and adaptation to training. It also plays a key role in maintaining immune function and supporting recovery after exercise (Phillips & Van Loon, 2011).

Young football players are advised to consume **1.4–1.8 g of protein per kilogram of body weight daily**, distributed evenly across meals and snacks. Post-exercise protein intake, ideally combined with carbohydrates, enhances muscle recovery and glycogen replenishment (Burke & Deakin, 2015).

Excellent protein sources include:

Lean meats (chicken, turkey, beef)

Fish and seafood

Eggs and dairy products (milk, yoghurt, cheese)

Plant-based proteins (tofu, beans, lentils, quinoa)

Fats: Essential for Long-Term Energy and Health

Although fats have been wrongly perceived as harmful, they are vital for young athletes. Fats provide a dense source of energy and support hormone production, brain development, and the absorption of fat-soluble vitamins (A, D, E, and K) (Jeukendrup & Gleeson, 2019).

Healthy fats should make up around **20–35% of total daily energy intake**, focusing on unsaturated fats such as:

Avocado

Nuts and seeds

Olive, canola, and sunflower oils

Fatty fish (salmon, tuna, mackerel)



Saturated fats from processed meats, pastries, and fried foods should be limited, as excessive intake can negatively impact cardiovascular health (Mănescu, D.C., 2010).

Vitamins and Minerals: Supporting Growth and Performance

Micronutrients play vital roles in energy metabolism, bone development, and overall well-being.

Key nutrients for young footballers include:

Calcium and Vitamin D: Crucial for bone strength and muscle function; found in dairy, fortified foods, and sunlight exposure (Rodriguez et al., 2009).

Iron: Essential for oxygen transport in the blood. Iron-rich foods include red meat, spinach, and legumes (Beard & Tobin, 2000).

B Vitamins: Support energy metabolism and red blood cell production; found in whole grains, meat, eggs, and leafy greens (Thomas, Erdman & Burke, 2016).

Antioxidants (Vitamins C and E): Help reduce oxidative stress caused by intense training; found in fruits, vegetables, and nuts (Jeukendrup & Gleeson, 2019).

A diet rich in colourful fruits, vegetables, and whole foods typically provides adequate micronutrients, reducing the need for supplementation unless medically indicated.

Fluids: The Forgotten Nutrient

Hydration is often underestimated in young athletes. Even mild dehydration can impair strength, endurance, and decision-making on the field (Sawka et al., 2007).

Football players should:

Drink regularly throughout the day, not just during exercise.

Consume 400–600 ml of water 2 hours before training or matches.

Sip 150–250 ml every 15–20 minutes during activity.

Rehydrate after play with water or low-sugar sports drinks to replace fluids and electrolytes (Burke & Deakin, 2015).

Properly balancing these nutritional components enables young football players to maximise energy, enhance performance, and recover effectively. Understanding and applying these principles lays the groundwork for long-term athletic success and healthy growth.

4. Timing of Meals

In addition to what young football players eat, *when* they eat plays a crucial role in maximising performance and recovery. Proper meal timing ensures that the body has sufficient energy before exercise, maintains hydration and blood glucose during play, and replenishes nutrients efficiently after training or competition (Burke & Deakin, 2015). Strategic meal timing can also help prevent fatigue,



gastrointestinal discomfort, and delayed recovery — all common issues among youth athletes with inconsistent eating patterns (Thomas, Erdman & Burke, 2016).

Pre-Training or Pre-Match Nutrition

The pre-training meal should provide easily digestible carbohydrates to top up glycogen stores and a moderate amount of protein to support muscle function. High-fat and high-fibre foods should be avoided close to kick-off as they may cause stomach discomfort during play (Bean, 2022).

Timing:

The main pre-match meal should be consumed **2–3 hours before** the activity.

A small snack may be eaten **30–60 minutes before** if additional energy is needed.

Ideal meal examples:

Grilled chicken with rice and vegetables

Wholegrain pasta with tomato sauce and lean meat

Porridge topped with fruit and yoghurt

Light pre-game snacks:

Banana or energy bar

Smoothie made with milk and fruit

Toast with peanut butter

These meals provide steady energy release and maintain blood sugar levels during the early stages of play (Burke et al., 2011).

Nutrition During Training and Matches

During long or intense matches (lasting over 60–90 minutes), maintaining hydration and blood glucose levels becomes essential. Fluid loss through sweating can affect endurance, coordination, and decision-making (Sawka et al., 2007).

Recommendations:

Drink **150–250 ml** of water or a sports drink every **15–20 minutes**.

For sessions exceeding 60 minutes, consume **30–60 g of carbohydrates per hour**, such as diluted fruit juice, sports gels, or small pieces of fruit (Jeukendrup, 2014).

These strategies help delay fatigue, maintain concentration, and preserve muscle glycogen for later stages of the match.

Post-Training or Post-Match Recovery

Post-exercise nutrition is critical for replenishing energy stores, repairing muscle tissue, and restoring hydration (Phillips & Van Loon, 2011). The first **30–60 minutes after exercise** are considered the “recovery window,” during which the body is most efficient at absorbing nutrients.

Guidelines:

Consume a meal or snack containing **carbohydrates and protein in a 3:1 ratio**.

Rehydrate with water or a recovery drink containing electrolytes.

Recovery meal examples:

Chocolate milk and a banana



Tuna sandwich with salad
Rice with lean meat or tofu and vegetables
Fruit smoothie with milk or yogurt
Adequate post-exercise nutrition reduces muscle soreness, restores glycogen levels, and prepares the athlete for the next training session (Thomas, Erdman & Burke, 2016).

Daily Meal Distribution

Young footballers benefit from eating **regular, balanced meals** throughout the day — typically **three main meals and two to three snacks**. Spreading energy intake helps maintain metabolism, improve nutrient absorption, and prevent energy dips during school or training (Jeukendrup & Gleeson, 2019).

Example daily pattern:

Breakfast: Oatmeal with fruit and milk

Snack: Yogurt and granola

Lunch: Chicken wrap with vegetables

Pre-training snack: Banana or smoothie

Dinner: Salmon, potatoes, and greens

Post-dinner snack (if needed): Low-fat milk or fruit

Consistent meal timing and composition support sustained energy availability, enhance training quality, and improve recovery outcomes over time.

5. Common Mistakes to Avoid

Even with the best intentions, young football players often make nutritional mistakes that can undermine their performance, recovery, and overall health. Many of these errors stem from misinformation, time constraints, or a lack of awareness about how diet impacts athletic performance. Recognising and correcting these habits is key to supporting consistent energy levels, optimal growth, and reduced injury risk (Mănescu, C.O., 2010).

Skipping Meals

One of the most common mistakes among youth athletes is skipping meals, particularly breakfast. Regular meal timing is essential to maintain stable blood glucose levels and provide continuous energy for training and daily activities. Missing meals can lead to fatigue, poor concentration, and reduced endurance during practice or competition (Burke & Deakin, 2015).

Research shows that skipping breakfast can impair both cognitive and physical performance in young athletes by lowering glycogen stores and limiting nutrient availability (Rampersaud et al., 2005). Encouraging consistent meal patterns helps sustain metabolism and prevents overeating later in the day.



Overreliance on Processed and Sugary Foods

Highly processed snacks, fast food, and sugary beverages are popular among young athletes due to convenience and taste. However, these foods often lack essential nutrients and contain excessive amounts of sugar, unhealthy fats, and sodium. Consuming such items frequently can lead to energy crashes, poor recovery, and an increased risk of long-term health issues such as obesity and metabolic syndrome (Jeukendrup & Gleeson, 2019).

Athletes should focus instead on nutrient-dense whole foods — such as whole grains, fruits, vegetables, lean proteins, and healthy fats — which provide sustained energy and aid recovery (Burke et al., 2011).

Insufficient Hydration

Dehydration is another critical yet common issue among young footballers. Many fail to drink enough fluids before and during training, especially in warm conditions. Even mild dehydration can lead to impaired coordination, slower reaction times, and increased fatigue (Sawka et al., 2007).

Athletes should monitor hydration by checking urine colour (pale yellow indicates good hydration) and by drinking regularly throughout the day, not just during exercise sessions. Proper hydration also aids thermoregulation and cognitive function, both essential for high performance (Thomas, Erdman & Burke, 2016).

Inadequate Recovery Nutrition

Post-exercise nutrition is often neglected by young players who may not understand its importance in replenishing glycogen and repairing muscles. Failing to eat within 30–60 minutes after training delays recovery and can lead to muscle soreness and suboptimal performance in subsequent sessions (Phillips & Van Loon, 2011).

Including a post-training snack or meal containing both carbohydrates and protein is essential. This might include milk and fruit, a sandwich, or yogurt with granola (Burke & Deakin, 2015). Regular recovery nutrition supports consistent progress and reduces injury risk.

Overuse of Supplements and Energy Drinks

The growing popularity of sports supplements and energy drinks among young athletes is concerning. Many of these products are unnecessary and can even be harmful if used inappropriately. Energy drinks, for example, contain high levels of caffeine and sugar, which may cause dehydration, elevated heart rate, and sleep disruption (Seifert et al., 2011).

Most performance and recovery needs can be met through a balanced diet, and supplements should only be considered under professional guidance (Thomas, Erdman & Burke, 2016). Education around food-based nutrition helps young athletes make safer, more effective choices.



Summary

Avoiding these common mistakes allows young football players to optimise their energy levels, improve recovery, and maintain long-term health. Coaches and parents play a vital role in fostering good nutrition habits by promoting structured meal patterns, providing access to balanced foods, and modelling healthy behaviours.

6. Conclusions

Nutrition is a fundamental pillar of athletic performance and overall health, particularly for young football players who are still developing physically and mentally. A well-balanced diet that provides adequate energy, macronutrients, micronutrients, and fluids supports not only optimal performance during training and competition but also promotes healthy growth, recovery, and long-term wellbeing (Bean, 2022).

The evidence presented throughout this article highlights that young athletes require structured eating habits that align with their physiological and developmental needs. Carbohydrates remain the primary energy source for high-intensity play, while protein supports muscle repair and adaptation to training (Phillips & Van Loon, 2011). Healthy fats contribute to sustained energy and hormonal balance, and hydration is vital for thermoregulation and cognitive function (Sawka et al., 2007). In addition, vitamins and minerals such as calcium, iron, and vitamin D play essential roles in bone health, oxygen transport, and immunity (Rodriguez et al., 2009).

Meal timing also has a profound effect on performance. Consuming the right foods before, during, and after exercise ensures that players are properly fuelled and can recover effectively between sessions (Burke & Deakin, 2015). Avoiding common mistakes — such as skipping meals, neglecting hydration, or overreliance on processed foods — is equally important in maintaining consistency and preventing fatigue or injury (Thomas, Erdman & Burke, 2016).

Ultimately, building sound nutritional habits at a young age lays the foundation for long-term athletic success. Education and guidance from coaches, parents, and sports nutrition professionals can empower young footballers to make informed choices, developing a positive relationship with food that enhances both performance and health throughout their athletic journey.

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