

Team-work in Sports Nutrition: The case of Benfica LAB

By Diana Granja, Ricardo Pinto, Carlos Caetano, Diogo Ferreira

In the world of soccer, Sport Lisboa (SL) e Benfica is an historical club that has been dominating Portuguese competitions but also achieved European notoriety, ranking 9th in the current UEFA standings for club competitions.

Formalized nutritional support provided by Sports Dietitians has been an integral part of SL Benfica Soccer Academy located in Seixal, Portugal (Caixa Futebol Campus) for the past ten years. The importance of nutrition in sports was a gradual process that first gained relevance as a complementary adjunct to medical and sports science. This recognition created further demand for specialized interventions focused on promoting the health, well-being and performance of all athletes training at the Soccer Academy, including youth to first team players.

Our present day team consists of 4 dietitians who were integrated into the Club's sport science department (known as Benfica LAB) in 2013. The whole team consists of 21 professionals including sports physiologists and performance analysts all working together under the guidance of our coordinator, Professor Bruno Mendes.

As denoted in Figure 1, there are 4 main areas of practical intervention within the Benfica LAB Nutrition structure; Nutritional Education, Measurements, Meal Planning and Food Service Assessment and Supplementation. Along with our practical intervention duties we are excited to be involved in a new aspect of our job that includes scientific research. Although the role is new to us, we are learning every day and remain very eager to participate in investigative projects with experienced national and international academic researchers and institutions.

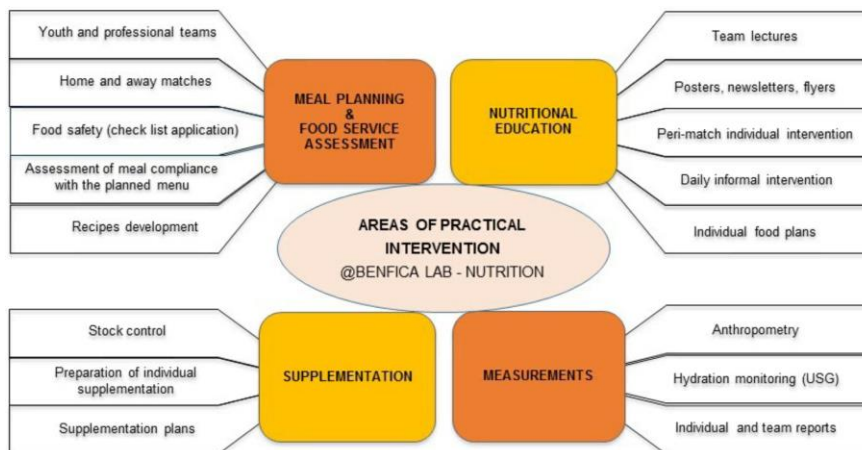


Figure 1 – Areas of practical intervention at Benfica LAB – Nutrition

As our organization expanded in human resources, we recognized the importance of group dynamics and this became a paramount concern. As a team we all need to share the same mission and values and converge our views on nutrition speaking as one voice. To help us get organized we developed a departmental communication plan that guides our formal communication with coaches, medical staff, food service company representatives and many others. In addition to the daily informal one-to-one discussions and exchange of ideas, we schedule weekly formal meetings where we discuss present issues as well as improvement and innovation steps for the future. For example, new food and drink solutions, new education tools and new supplements. Another aspect of our need to innovate includes searching for solutions that increase our work

efficiency and productivity. To assist with this we regularly meet with the Club's IT department to continuously improve the Club's internal software and hardware for nutrition-related data recording and analysis. The vision of our Club's directors regarding investment in youth soccer to "create" first team players is proving to be quite profitable and making a major impact on our work. We feel we are truly part of a dynamic process of developing and optimizing player's performance. With scientific research now also in the forefront of our ambitions, we are delighted to be part of this project.

What is a Work Day at Benfica Like for these Sports Professionals?

Youth Soccer — Diana Granja

In what concerns youth soccer, the day always starts early by monitoring the breakfast of our athletes either before they go to school (resident athletes from U13 to U17) and/or before the morning training session (U19). As the youth soccer dietitian, my tasks include meal planning, previewing and attending meals, ensuring their conformity and quality, as well as influencing the athlete's choices.

After breakfast, an anthropometric evaluation may be conducted. All teams (from U-13 to U-19) are evaluated on a periodic basis and after each evaluation the data is interpreted. Any athletes that aren't within the recommended parameters are identified to start individualized nutritional counselling. My morning routine also includes taking care of the older athlete's post training supplementation. In youth soccer, only the U19 team requires specific timing for taking supplements. It is important to mention that our philosophy at SL Benfica places a high priority on teaching our athletes how to eat properly according to their training stimulus and goals and to make sure they understand that supplementation does not replace a balanced, adequate diet.

After U19 training session and supplementation is finished it is time to monitor lunch at the canteen. "Fish day" tends to be the most challenging one regarding nutritional intervention during meals, as most players rather prefer meat options!

During the afternoon I usually do individualized nutritional counselling with the athletes or perform anthropometric evaluations in the younger teams. For me, the individual intervention is one of most rewarding parts of the job, because it allows me to directly impact an athlete's food habits which may contribute to a better performance, and ultimately, a more promising professional career. One of the most rewarding experiences for me (and others) is seeing the results of good nutrition practices and the impact it can have on an athlete's body composition and performance.

When there are no team evaluations or nutritional counselling sessions we do our necessary desk work which includes menu planning, food plans, anthropometric reports, producing nutrition education materials, working on research projects, managing supplements and working with the interns.

After training sessions in the late afternoon, it's important to make sure post-training snacks are distributed to the different teams, and then it's time to monitor the dinner. The Nutrition sector of Benfica LAB also has 1-2 academic interns each semester who work specifically with youth soccer. My role is to coordinate their tasks and ensure they have a positive and practical learning experience.

Sometimes it's very difficult to manage all the daily tasks associated with 8 different youth teams. Being able to see these young athletes develop their professional soccer career and know that I contributed, makes it all worth it.

Professional Reserves Team — Ricardo Pinto

As a dietitian on SL Benfica B Team, I work closely with some of the most promising soccer players of the future. Although many of them come with a good nutritional background, some still need to improve their food choices. A major goal in our intervention is to be sure that players get a proper daily energetic and

nutritional intake during training and while in team concentration (home and away games).

Usually I arrive at the training centre at 7:30am to ensure the team breakfast is properly prepared before the players arrive around 8am. Every team meal is an educational moment to refresh player's routines and promote continuous building of solid nutritional knowledge. Before this meal, players fasting weight is checked daily and when an anthropometric evaluation is scheduled, body fat levels are assessed as well. While I am waiting on training to start, I have time to perform informal nutritional counselling with players. The preparation of individual daily supplementation starts when the players leave for the training session and they can also be given some CHO pre-training support if they had a previous resistance training session. After training, I try to make sure they ingest their supplementation within 30 minutes for the purpose of recovery and training adaptation.

The afternoon period is usually dedicated to office work: menu planning, individual food plans, anthropometric and other relevant reports, development of nutrition education materials, data compilation, research projects, management of supplementation orders, teamwork and staff meetings.

Pre-match period (team concentration) usually starts on the day before a match, with dinner. This often means we have 3 to 6 team meals which are previously planned. The final product is checked before each meal to guarantee best food quality and variety. During mealtimes the player's nutritional intake is monitored reinforcing the CHO loading importance prior to competition. In the acute pre-match period, my intervention goes along the main nutritional goals of topping up glycogen reserves and ensuring proper pre-match hydration status. To help with this, I provide food and fluid to players, while explaining their pertinence along with any pre-competition ergogenic supplementation. During half-time I give players' different hydration options and fast absorption CHO sources. After the match, I monitor their individualized post-match supplement intake and (when playing away) their post-match lunch box served on the team bus. Although sometimes it may seem difficult to manage all the daily endeavours, in the end of the day it's great to be able to help players on their way to the highest level of professional soccer.

Professional First Team — Carlos Caetano

A good day always starts with a good breakfast so the first thing that I do when arriving at Caixa Futebol Campus is to ensure that breakfast includes every option I planned for that day. Prior to breakfast every day the players check their fasting weight and I always try to be present in the breakfast room to advise players on the best food options or to tell them how can they improve their pre-training meal.

Before training I intervene mostly with players who have significant weight fluctuations and/or record high rates of perceived fatigue. Between breakfast and training some players do extra work such as strength training or prevention drills. During these sessions I might provide additional nutritional support through the provision of carbohydrates (or a pre-training supplement) to enhance training adaptations and ensure proper fuelling for training.

While players are training, it's time to prepare their post training supplementation and I try to ensure that all players take that supplement. We are also fortunate to be able to provide a post-training meal for all the players and we use this meal time to provide nutrition education to players especially on the importance of recovery from the training.

The afternoon generally includes desk work such as formal reports, meal plans, and individual food plans. Regarding my coordination responsibilities, it's important to take some time with colleagues from youth soccer (Diana) and reserves team (Ricardo), to hear them, get some feedback and discuss interventions, reports, new products or new nutritional strategies. In parallel with this, I'm always in close communication with our sports nutrition consultant and technical coordinator (Diogo). Every day at SL Benfica presents different challenges that we need to overcome, so our teamwork is essential to successfully doing so.

Anywhere our first team travels during the competitive season, I am there to provide support in all nutrition

related issues. Bus and plane travels are often challenging because there is a limited food variety, and the players tend to over relax and forget some important behaviours (such as hydration and adequate refuelling). In the hotels, every meal from breakfast to supper is monitored and these are long and busy days, but as they say in Portugal, "When you enjoy your run, you never get tired!"

The day after a match is usually a recovery day and on these days I am busy with the usual task mentioned previously plus a special concern with refuelling and functional foods ingestion, I evaluate the urine specific gravity to monitor hydration levels, allowing for intervention in those players which are beyond their individual reference.

Diogo Ferreira (sports nutrition consultant)

After 3 seasons of working for the club on a full-time basis as the Sports Dietitian, I was offered this great and innovative opportunity to work for the club as a part time consultant. This position allowed me time to keep an eye on both practice and theory and I could now invest more seriously on my academic development. The main premise of my work today is to enhance the way we learn from science and apply it to practice in the club. As a result, I work together with my colleagues striving for better nutrition education, body composition assessment and interpretation, meal planning and supplementation protocols. So, I am always asking, "how can we improve what we already do?" as I feel this is the most important question that drives my work at the club. I achieve this by working with Benfica LAB colleagues via online platforms, mainly e-mail and face-to-face meetings. Once a week I travel to our soccer academy where my day starts within the first team environment. I check everything with Carlos Caetano (mentioned previously) oftentimes helping reinforce key nutrition-related behaviours to players. The afternoon is dedicated to meetings, desk work on technical documents and research projects. Typically, this is a lengthy but very productive day for us at Benfica LAB-Nutrition, as we discuss important topics in current intervention but also on scientific and technology novelties that may drive us forward. Fortunately, this new position also allows me time to be present at important conferences and seminars, therefore I can share all the knowledge and experiences acquired with my colleagues. I could not be happier with my new role at the club.