

## A Carbohydrate Supply Proposal for Elite Soccer Players in Match Days Vs. a Training Days

**Haniel Fernandes\***

*Estácio de Sá College, Nutrition Departament, Fortaleza, Ceará, Brazil*

**\*Corresponding Author:** Haniel Fernandes, Estácio de Sá College, Nutrition Departament, Fortaleza, Ceará, Brazil.

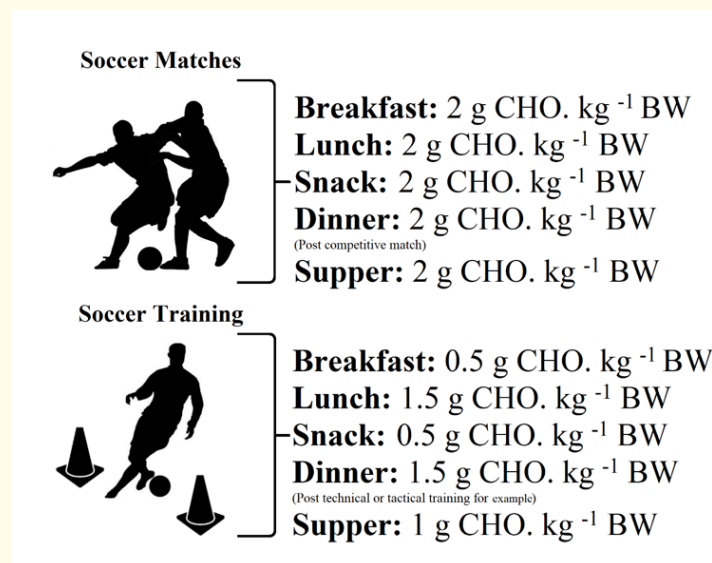
**Received:** March 12, 2023; **Published:** March 15, 2023

On the scientific bases around the world, about the information's that say how much carbohydrate to consume for matches and how much carbohydrate to consume for training into the soccer players is still not clear. This way, this can be one of reasons why soccer athletes have a low energy intake [1], consuming wrong calorie amounts during pre-season situations [2]. Knowing that elite soccer players have 42% increase in total energy expenditure during matches compared to training [3], becomes interesting to understand match load is different to training load, and the calorie intake also should be different into this events. What can to prove this difference appears be related to matches intensity, but not only due the applied speed also due the power that athlete needs to impose on field. Because during matches, elite soccer players have a twenty six percent increase in total distance covered at high power compared to training corresponding to forty two percent increase in total energy expenditure [4].

A recent study assessed the energy expenditure and dietary intake over a 14 days in 41 professionals soccer players playing in the Dutch Premier League and checked carbohydrate intake was higher during match days ( $5.1 \pm 1.7$  g.  $\text{kg}^{-1}$  body mass) compared with training ( $3.9 \pm 1.5$  g.  $\text{kg}^{-1}$  body mass) and rest days ( $3.7 \pm 1.4$  g.  $\text{kg}^{-1}$  body mass) [5], demonstrating that athletes already empirically perform a certain periodization of caloric consumption. But the question that remains is: "do elite soccer athletes periodize carbohydrate consumption according to the different loads between training sessions and matches?".

Well, calorie demands obey the loads of sporting events, thinking about it a recent study evaluated the intensity zones in 10 elite soccer players on the different types of soccer trainings, proving that athletes remained a higher time percentage in the low-intensity zone in technical training compared to tactical training [6], i.e. it can be said that soccer athletes apply different intensities in matches compared to training, and into different soccer training types. Therefore, the intensities applied by elite soccer players tend vary if athlete is playing or training, if match is friendly, qualifying, or competitive and whether the training is technical, tactical or training-match.

Therefore, apply carbohydrates periodization strategies based on training weeks and matches on the season as recently demonstrated [7] is very important to make prescriptions more flexible based on required need for each work. Thinking about the training periods demand, a recent article brings carbohydrates offers into 3 to 5 g CHO.  $\text{kg}^{-1}$ .  $\text{day}^{-1}$  [8,9], and, thinking about on match load, using up to 3 days before, can be prescribe for carbohydrate intakes to increase muscle glycogen storage a consumption 8 to 12 g CHO.  $\text{kg}^{-1}$ .  $\text{day}^{-1}$  [10]. In summary, the image 1 brings a proposal of the carbohydrate amount that the elite soccer player should be intake for improve their match and training performance.



**Image 1:** A proposal of the carbohydrate amount for elite soccer players in match days and training days.  
Abbreviations: CHO: Carbohydrates; BW: Body Weight.

### Declaration of Interest Statement

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. The author(s) received no financial support for the research, authorship, and/or publication of this article.

### Bibliography

1. Magee MK., *et al.* "Prevalence of Low Energy Availability in Collegiate Women Soccer Athletes". *Journal of Functional Morphology and Kinesiology* 25 (2020): 96.
2. Raizel R., *et al.* "Pre-Season Dietary Intake of Professional Soccer Players". *Nutrition and Health* 23 (2017): 215-222.
3. C Osgnach., *et al.* "Energy Cost and Metabolic Power in Elite Soccer". *Medicine and Science in Sports and Exercise* 42 (2010): 170-178.
4. Piras A., *et al.* "The Energy Cost of Running with the Ball in Soccer". *International Journal of Sports Medicine* 38 (2017): 877-882.
5. Brinkmans NYJ., *et al.* "Energy Expenditure and Dietary Intake in Professional Football Players in the Dutch Premier League: Implications for Nutritional Counselling Energy Expenditure and Dietary Intake in Professional Football Players in the Dutch Premier League: Implications". *Journal of Sports Sciences* (2019): 1-9.
6. Condessa LA., *et al.* "Analysis and Comparison of Intensity in Specific Soccer Training Sessions". *Motriz. Revista de Educacao Fisica* 21 (2015): 54-60.

7. Fernandes HS. "Carbohydrate Consumption and Periodization Strategies Applied to Elite Soccer Players". *Current Nutrition Reports* 9 (2020): 414-419.
8. Fernandes H. "The Carbohydrates Periodization Strategies Should Target Training and Matches Load of Elite Soccer Players". *Science Sports* 37 (2022): 153-154.
9. Fernandes H. "For Elite Soccer Players the Carbohydrates Periodization Strategies Should Obey Different Training Load". *Mathews Journal of Sports Medicine* 3 (2023): 1-5.
10. Mata F, *et al.* "Carbohydrate Availability and Physical Performance: Physiological Overview and Practical Recommendations". *Nutrients* (2019): 11.

**Volume 18 Issue 2 February 2023**

**©All rights reserved by Haniel Fernandes.**