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FOOTBALL NUTRITION GUIDE

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WHAT ARE THE DEMANDS OF MATCH PLAY?

- Unlike endurance sports, football consists of a high-intensity intermittent activity profile where players alternate between periods of standing still, walking, jogging, running and sprinting.
- Players typically cover between 10-13 km in total distance during a match, of which around 3 km is at a speed above 14.4 km/h and 250-350 metres is classed as an all-out sprint. Footballers require the ability to sustain the capacity to perform high-intensity intermittent exercise.
- To fuel such high-intensity actions, carbohydrate is king and players should ensure they start the match with muscle glycogen stores full by consuming a high carbohydrate diet (e.g. 8g/kg body mass) the day before the match.

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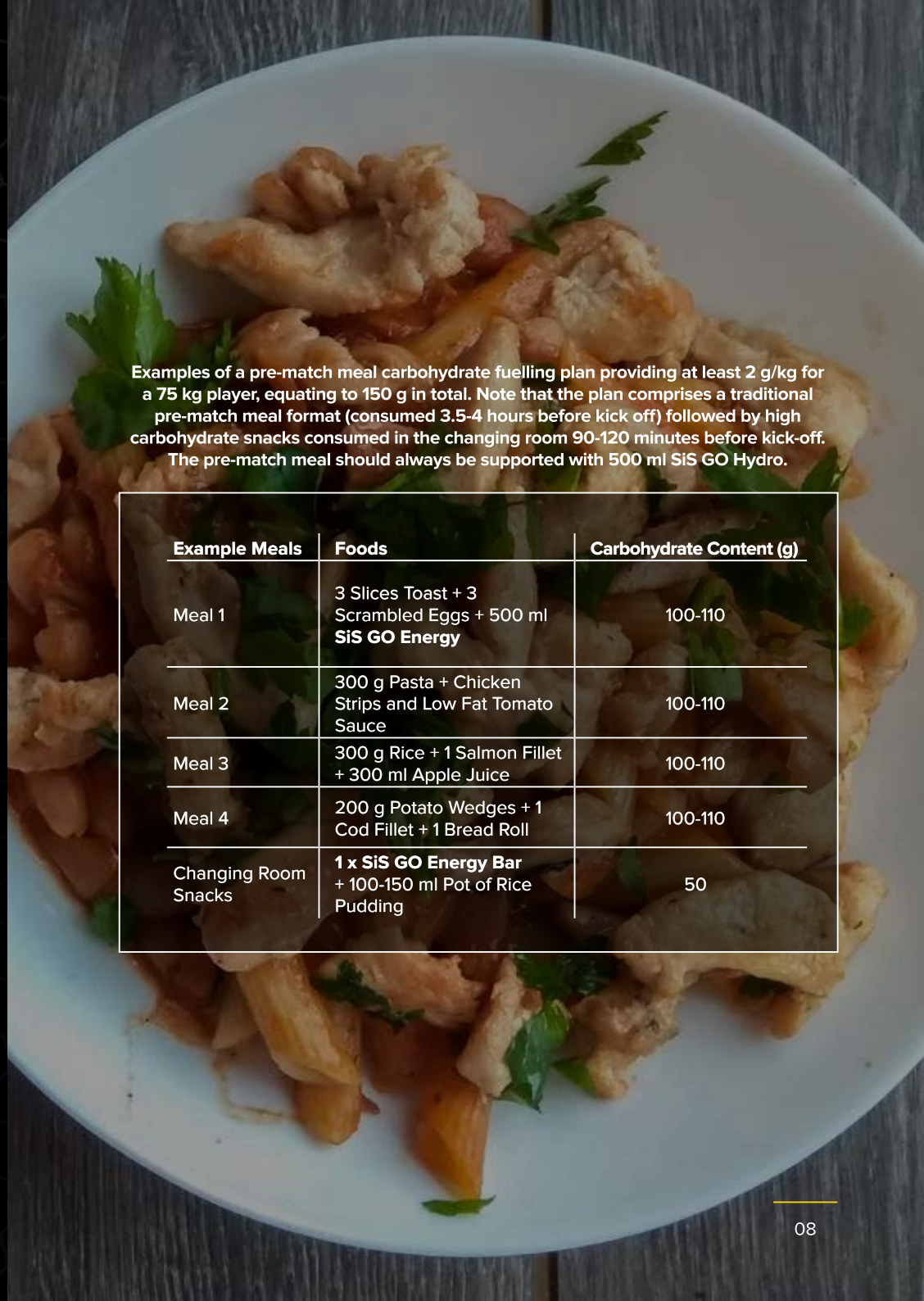
WHAT ENERGY SOURCE FUELS FOOTBALL MATCH PLAY?

- The main energy source fuelling football match play is carbohydrate and specifically, muscle glycogen.
- We can store approximately 400 g of glycogen in our muscles and 100 g in the liver. At the end of a game, almost 50% of our muscle fibres are completely empty of glycogen and it is for this reason that our ability to perform high-intensity exercise and sprints declines in the second half. Put simply, we have run out of fuel!
- The importance of muscle glycogen for match play was recognized as early as the 1970s where researchers observed that starting the game with muscle glycogen stores that were only 50% full significantly reduced the total distance covered by 25% when compared with starting the game in a fully loaded state (players ran 12 km versus 9.7 km).

THE PRE-MATCH MEAL

- The purpose of the pre-match meal is to simply “top-up” your muscle and liver glycogen stores. The majority of your match day nutrition preparation should have been done the day before so do not make the mistake of over-eating at this meal.
- The pre-match meal should avoid high fat and high fibre foods and be consumed at least 3-4 hours before kick-off so as to allow sufficient time for digestion.
- You should aim for at approximately 2 g/kg body mass of carbohydrate from a variety of low fibre carbohydrate foods and snacks. Also consume 20-30 g of protein from chicken, fish or yoghurt sources.
- To start the match hydrated, it is recommended you consume 5–10 ml per kg of body mass of an electrolyte solution (e.g. **SiS GO Hydro**) in the 3 to 4 hours before exercise. Consuming 500-750 ml of **SiS GO Electrolyte** with your pre-match meal will have the added benefits of providing electrolytes and carbohydrate so that you can help achieve your pre-match hydration and fuelling goals at the same time.



Examples of a pre-match meal carbohydrate fuelling plan providing at least 2 g/kg for a 75 kg player, equating to 150 g in total. Note that the plan comprises a traditional pre-match meal format (consumed 3.5-4 hours before kick off) followed by high carbohydrate snacks consumed in the changing room 90-120 minutes before kick-off. The pre-match meal should always be supported with 500 ml SiS GO Hydro.

Example Meals	Foods	Carbohydrate Content (g)
Meal 1	3 Slices Toast + 3 Scrambled Eggs + 500 ml **SiS GO Energy**	100-110
Meal 2	300 g Pasta + Chicken Strips and Low Fat Tomato Sauce	100-110
Meal 3	300 g Rice + 1 Salmon Fillet + 300 ml Apple Juice	100-110
Meal 4	200 g Potato Wedges + 1 Cod Fillet + 1 Bread Roll	100-110
Changing Room Snacks	**1 x SiS GO Energy Bar** + 100-150 ml Pot of Rice Pudding	50

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An example summary of an in-game fuelling strategy is shown below.

Time	Product	Carbohydrate Content (g)
Before Kick-Off	**1 SiS GO Energy Gel**	22
First Half (if possible)	**1 SiS GO Energy Gel** or 250 ml **SiS GO Electrolyte**	22 or 18
Half-Time	**1 SiS GO Energy Gel** or 250 ml **SiS GO Electrolyte** * Where players are using caffeine they can use an SiS **GO Energy + Caffeine Gel** (this delivers both carbohydrate and caffeine) or an **SiS Caffeine Shot**	22 or 18
Second Half (if possible)	1 **SiS GO Energy Gel** or 250 ml **SiS GO Electrolyte**	22 or 18
		Total Carbohydrate Intake Range (g) = 76-88 Rate of Carbohydrate Intake Range (g/h) = 51-59

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FUELLING IN THE GAME & AT HALF TIME

- Unlike endurance sports, football players have limited opportunities to fuel during the match and often have to take advantages of natural breaks in play and of course, the half-time period.
- The benefits of carbohydrate during exercise are especially effective if you begin to fuel early during the match. Leaving it to half-time or the second half is often too late and your performance may have already declined by this stage.
- To achieve the 30-60 g target, it is a good idea to consume one **SiS GO Isotonic Energy gel** in the final minutes before kick-off and to also try and drink 250 ml of **SiS GO Electrolyte** mid-way through the first half if possible.
- Drinking **SiS GO Electrolyte** has the added benefit of providing carbohydrates, fluid and electrolytes therefore helping to promote both fuelling and hydration. Coaches could encourage players to drink at natural breaks in play and should also place drinks bottles at the sides of the pitch. It is recommended you consume enough fluid during the game to prevent a body mass loss >2-3%. You should aim for 500 ml of an electrolyte drink per hour of match play to maintain your hydration status and if you need more, your thirst will let you know.
- By the end of the first half, it is likely that your carbohydrate stores may already be 50% depleted. Fuelling at half-time should therefore begin immediately as you enter the changing room.
- Players should have access to their preferred carbohydrate source (i.e. **SiS GO Isotonic Energy Gel** or **SiS GO Electrolye**) and aim to consume their fuelling plan within the first 5 minutes.
- Given the performance benefits of caffeine on mental, physical and skill performance, players may also wish to consume caffeine within 5 minutes of the half-time period (e.g. **SiS Caffeine Shot** or **SiS GO Energy + Caffeine gel**). Performance benefits of caffeine occur with 2 mg/kg body mass, equivalent to 150 mg for a 75 kg player.
- You can expect to feel the benefits of caffeine 30 minutes later therefore meaning your performance in the last 15 minutes of the match can be improved.

POST-MATCH RECOVERY

- The two most important factors that affect recovery is nutrition and sleep
- The nutritional priorities after a match is to promote recovery of muscle glycogen stores and to stimulate muscle protein synthesis.
- Muscle is highly sensitive to carbohydrate storage in the hours after match play and we should consume 1.2g/kg body mass at hourly intervals for 3-4 hours.
- High quality protein should also be consumed immediately post-match and prior to sleep to help repair and rebuild damaged muscle fibres.
- Recovery after a match is highly dependent on your ability to plan ahead. Always ensure your kit bag is packed with your recovery foods, drinks such as **REGO Rapid Recovery** and snacks.

Example of a post-match recovery protocol delivering at least 1.2 g/kg of carbohydrate for 3 hours after the match. For a 75 kg player, this equates to at least 90 g of carbohydrate.

Meal	Foods	Carbohydrate Content (g)
Immediately After Match	**SiS REGO Rapid Recovery Plus** + **SiS GO Energy + Protein Bar** + 200 g Rice Pudding	90-100
+ 1 Hour (Post-Match Recovery Meal)	300 g Pasta	90-100
+ 2 Hours	500 ml **SiS GO Energy** + **SiS Protein Bar** + 1 Large Banana	90-100

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TOP 5 TIPS FOR MATCH DAY NUTRITION

- Start the game with full muscle glycogen stores by consuming higher carbohydrate intake the day before the match (8 g/kg body mass) and in your pre-match meal (2 g/kg body mass).
- Consume 2 mg/kg of caffeine in the warm-up (or half-time) to increase your mental alertness and physical performance during the match.
- Consume carbohydrate during exercise at a rate of 30-60 g per hour in order to prevent fatigue and help you maintain your passing, shooting and dribbling skills. Take advantage of the half-time period to achieve your fuelling targets
- Avoid dehydration by consuming at least 500 ml of an electrolyte solution during the match. If you need more, your thirst will let you know.
- Recover immediately after the match by consuming both carbohydrate and protein within 30 minutes of full time.

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