

Fuelling with Carbohydrate – *During Exercise and Competition*

Food Characteristics and Practical Application of Sports Gels: *Follow this guide when choosing your intra-exercise fuel*

- Sports foods e.g., carbohydrate gels → convenient and practical
- Provide easily absorbable carbohydrates → glucose and fructose
- Maltodextrin (glucose) is a common ingredient in sports foods
- Check the ingredients list on your preferred sports gel to determine the source of the carbohydrate

Carbohydrate Content

- A gel containing a total of 30g of carbohydrates per serve with a 2:1 glucose to fructose ratio contains 20 g of glucose and 10g of fructose
- To consume 90 g of carbohydrates per hour, you would need to consume a total of 3 gels within the hour → equates to 60 g glucose and 30g fructose per hour
- Sports drinks should have a 6 to 8% concentration of carbohydrate (6 to 8 g/100 mL)

(Burke & Deakin, 2015)

Intra-Activity Fuelling Requirements – Decision Making Table

Duration	Activity Example	Carbohydrate Guidelines
< 45 minutes	Race or continuous training effort	Generally not required
45 – 75 minutes	Non-continuous training (e.g., intermittent interval training)	Mouth rinse (e.g., sports drink)
1.0 – 2.5 hours	Race, endurance training, and non-continuous training	30 – 60 grams per hour (glucose or glucose-fructose mix) (Podlogar & Wallis, 2022)
> 2.5 hours	Race long continuous training effort	90 grams per hour (2:1 glucose: fructose) i.e., 60 g glucose and 30 g fructose per hour

(Burke et al., 2011)

Examples Foods: *Presented as Serving Size and Carbohydrate (CHO) Content per Serve*



Sports Drink
(600 mL) 35 g CHO
(5.9% CHO solution)



Sports Gel
(45 g) 29 g CHO
(glucose only)



Sports Gel
(51 g) 30 g CHO
(2:1 Glucose:Fructose ratio)



Sports Chews
(50 g) 38 g CHO
(with 50 mg caffeine)

Intra-Exercise Carbohydrate Calculator: *Practical tool*

- **Practical Application:** Check the Nutrition Information Panel on your preferred sports gel or chew to determine if you are meeting the guidelines → remember to assess your individual response during exercise
- Use the following links or scan the QR code to access a **calculator** to determine the amount of carbohydrate to consume **during** exercise!

During-Exercise Carbohydrate Calculator:

https://asluggett.github.io/Sport-Nutrition/intra_nutritional_calculator.html

Calculator Home Page:

<https://asluggett.github.io/Sport-Nutrition/>

