

Sports Bars

Supplement Overview

- > Sports bars provide a compact and practical source of carbohydrate with variable amounts of protein and micronutrients for use around exercise or in a busy lifestyle.
- > A major role for sports bars is to provide a concentrated form of carbohydrate to meet fuel needs pre, during and post exercise.

Products and protocols

- > A range of sports bars is available (see Table 1). Differentiating characteristics include the amount/type of key macronutrients protein and carbohydrate. While some “high-protein” bars may contain 20-30 g of protein of high quality, other bars provide 5-10 g of protein from varying sources.
- > Some sports bars are fortified with micronutrients, typically containing 25-50% of the Nutrient Reference Values (NRV) of various vitamins and minerals per bar, while others may also include proposed ‘performance enhancing’ ingredients. In this role, they provide a convenient portable and non-perishable snack with a valuable macronutrient and micronutrient content.
- > Most sports bars have a consistent chewy form with a low fibre content. Other variables include chocolate coating or caramel layers or forms similar to cereal bars (e.g. with grains, nuts, seeds).

Situations for Use in Sport

- > Sports bars can provide a compact fuel source in sports where the benefits of carbohydrate replacement are well documented. These include endurance/ultra-endurance events and prolonged intermittent exercise (e.g. team games).
- > A recent study has shown that solid forms of carbohydrate produce similar rates of fuel utilisation to liquid forms (e.g. sports drinks) when consumed during endurance exercise (Pfeiffer et al. 2010). This study featured moderate exercise intensity and a large volume of fluid intake; other situations may need further investigation.
- > Sports bars provide a low-fibre easily consumed form of carbohydrate for use in pre-event meal/snacks where the athlete is at high risk of gastrointestinal problems during exercise.
- > Can be used in a number of scenarios to provide a practical form of energy and blend of macronutrients.
 - Following key training sessions or competition to contribute to carbohydrate needs for refuelling (and if the protein content is adequate, to contribute to protein synthesis goals)
 - As a snack to provide energy/macronutrient intake without need to prepare or eat additional food or meals. Situations include:
 - Heavy training loads
 - Growth spurts
 - Program to increase lean body mass
 - Appetite suppression

Sports Bars

- Replacement of normal food intake to supply energy and nutrient needs while reducing gastrointestinal contents and body mass
 - Low residue meal plan for “making weight” or reducing body mass prior to competition
 - Low residue meal plan to reduce need for bowel movement on day of event
- Portable, non-perishable and easily prepared meal or snack:
- Environments with minimal facilities for food preparation/storage
- Travel to countries with inadequate or hard to access food supply, or where food hygiene may be a concern
- (Typically) Travel to interstate/international destinations without contravening customs regulations.

Table 1: Nutrient composition of a range of commonly available sports bars (average composition of bars within the flavour range has been provided)

Brand/bar	Size	Flavours	Energy (kj)	CHO (g)	Protein (g)	Fat (g)	Fibre (g)	Sodium (mg)	Other
PowerBar Protein Plus Bar (Aus)	65g	Chocolate	737	16.5	16.7	4.6	N/A	N/A	
PowerBar Performance Bar (Aus)	60g	Chocolate, Vanilla Crisp	924-954	40	8	2-3	2	230-240	
PowerBar Ride Bar (Aus)	55g	Peanut Caramel	892	22.5	10.2	9.1	4.1	110	
PowerBar Energise Bar (Europe)	55g	Banana Punch, Berry, Coconut, Chocolate, Cookies and Cream, Cherry Cranberry Twister, Mango Passionfruit, vanilla	840-930	39-40	5-8	2-3	1-2	210-250	
PowerBar Natural Energy Cereal (UK)	40g	Cacao crunch, strawberry & cranberry, Sweet'n'Salty	671	25.4	4	4.2	2	220	Wholemeal oats
PowerBar Natural Fruit and Nut (UK)	37.5g	Apple Strudel, Forest Fruits	711	14	5.6	9.6	2.8	<20	Contains fruit and nuts
PowerBar Protein Plus + Minerals (UK)	25g	Hazelnut-Brittle, Coconut	643	16.5	7	6.8	0.7	<40	Contains magnesium (71 mg) and calcium (161 mg)
PowerBar Protein Plus 30% (UK)	55g	Cappuccino-Caramel Crisp, Caramel-Vanilla Crisp, Vanilla-Coconut, Chocolate	900	24.1	16.7	5.8	0.6	60	Trisource protein
PowerBar Protein Plus + L-Carnitine (UK)	35g	Pineapple-Yoghurt, Raspberry Yoghurt	587	18.7	6.5	4.1	1.5	30	Contains 200 mg L-Carnitine
PowerBar Protein Plus Reduced in Carbs (UK)	35g	Vanilla, Strawberry	550	8.3	5.8	7.2	8.8	10	
PowerBar Performance Energy Bar (USA)	?	Peanut Butter, Chocolate, Vanilla Crisp, Chocolate Peanut Butter, Cookie Dough, Oatmeal Raisin, Banana, Milk Choc Brownie, Wild Berry, Apple Cinnamon, Mixed Berry Blast, Citrus Burst	1008	44-46	8-9	4	1	200	
PowerBar Harvest Energy (USA)	?	Varied	1008	42	9	4	5	140	

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Brand/bar	Size	Flavours	Energy (kj)	CHO (g)	Protein (g)	Fat (g)	Fibre (g)	Sodium (mg)	Other
PowerBar 20g Protein Plus (USA)	?	Chocolate Peanut Butter, Vanilla, Chocolate Crisp, Cookies and Cream	882	25	20	6	4	200	
PowerBar 22g Protein Plus Reduced Sugar (USA)		Chocolate Peanut Butter	1134	30	222	9	1	290	Sugar Alcohol 17g
PowerBar 12g Protein and Recovery (USA)		Peanut Butter Caramel Crisp, Cookies n Cream Caramel Crisp	1092	30	12	10	0	180	
PowerBar 30g Protein Plus (USA)		Chocolate Brownie, Dulce de Leche	1512	34	30	11	<1	240	
PowerBar 10/11g Protein Triple Threat (USA)		Chocolate Peanut Butter Crisp, Caramel Peanut Fusion, Chocolate Caramel Fusion, Chocolate Toffee Almond, Smores	966	30	10	9	3	150	
PowerBar Iron Girl Energy Bar (USA)		Cocoa Crunch, Strawberry and Cranberry	672	28	3	3.5	2	85	Added calcium and iron
Musashi SLM Petite Bar	35g	Choc Fudge, Mixed Berry	455	1.3	10	3.3	N/A	46	
Musashi SLM Toning Protein Bar	55g	Strawberry Cheesecake, Chocolate Fudge	814	5.4	18.4	4.8	7.3	9.0	
Musashi SLM Wholegrain Energy Bar	40g	Strawberry and Cranberry, Cocoa Crunch	608	24.7	3.2	3.2	1.9	50	
Musashi Growling Dog	65g	Chocolate, Wild Berry, Apricot	1030	34.5	16.9	4.2	N/A	140	Contains 1.5g Creatine
Musashi Bulk Protein Bar	80g	Berry, Chocolate	1230	9.9	27	7	N/A	162	Contains Maltitol (9.5g) and Polydextrose (7.8g)
Musashi Bulk Mass Gain Deluxe Bar	90g	Chocolate Peanut Butter, Vanilla – Raspberry	1390	23	30.3	12.9	N/A	153	
Musashi P2- Low Carb High Protein Bars	65g	Double Chocolate, Strawberries and Cream	923	7.2	20	5.1	N/A	89	Contains Maltitol (7.8g), Polydextrose (7.7g) and Glycerine (7.5g)
Musashi P10 Low Carb Protein Bar	40g	Cherry Coconut, Choc Mint Crisp, Smooth Caramel with Crushed Peanuts	660	7.9	10	6.5	N/A	48	Contains Maltitol (3.3g), Polydextrose (3.3g) and Glycerine (3.0g)
SIS Go Bar	65g	Chocolate-Orange, Apple-Blackcurrent	950	43	8	2	1.3	300	
SIS Go Bar Energize	40g	Chocolate	568	2.4	14	3.1	6	124	
Body Science Missile Performance Energy Bar	65g	Chocolate	1040	30.7	18	5.7	0.8	179	Contains glycerol (2g), Creatine and BCAA
Clif Bar	68g	20 different flavours	966	45	9	3.5	5	115	

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Clif Kidz Bar	36g	7 different flavours	504	22	2	3.5	3	135	
Clif Luna Bar	48g	15 different flavours	756	27	8	5	3	115	
Clif Builder's 20g Protein Bar	68g	8 different flavours	1134	30	20	8	4	230	
Clif Crunch Granola Bar	42g	6 different flavours	798	28	3	8	3	105	
Clif Kit's Organic Fruit and Nut Bar	49g	4 different flavours	756	27	4	9	5	65	
Clif Mojo Sweet and Salty Trail Mix Bar	45g	6 different flavours	840	20	8	12	3	180	
Swisse Recovery Bar	30g/ 60g	Choc Mint, Choc/Blueberry/ Acai, Choc/Banana/ Cinnamon, Choc, Choc Goji, Choc Coconut	972	4.3	20.9	6.8	5.2	50	

Concerns associated with supplement use

- Sports bars are often overused, leading to inappropriate replacement of whole foods and over-reliance on expensive alternatives. The compact form may lead to over-consumption of kilojoules and unwanted weight gain. **Food sources should always be considered as the first option for meals and snacks.**
- Fluid needs should also be considered when using sports bars to meet nutrition goals before, during or after exercise, since hydration issues are also likely to be present.
- Before using in a competition setting, athletes should be encouraged to practice use and assess tolerance during training sessions
- Sports bars may contain tree nuts, milk and gluten (from wheat flour, oats and barley) and may need to be avoided by individual athletes who have allergies to any of these items.
- Athletes should always seek the advice of a Sports Dietitian before undertaking any low residue eating strategies to make weight.

Current Australian Collaborative Research projects and activities

- See New Ideas on Carbohydrate Think Tank – NSIC Clearinghouse for Sport for updates on pro-active refuelling and mouth sensing strategies

References

Pfeiffer B, Stellingwerff T, Zaltas E, Jeukendrup AE. Oxidation of solid versus liquid CHO sources during exercise. *Med Sci Sports Exerc.* 2010; 42(11):2030-7.

This Fact Sheet was prepared by AIS Sports Nutrition as part of the Sports Supplement Framework (www.ausport.gov.au/ais/nutrition/supplements). Note that a Fact Sheet with additional information on this topic is available for Members of the Sports Supplement Framework via the Clearinghouse.

The Sports Supplement Framework has been designed to provide a framework for NSO athletes and specific Sports Supplement Programs may be available to NSO athletes through their NSO. All attempts are made to stay abreast of scientific knowledge and of WADA issues related to anti-doping. It is recommended that other athletes and groups should seek independent advice before using any supplement, and that all athletes consult the WADA List of Prohibited Substances and Methods before making decisions about the use of supplement products.

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Last updated May 2014