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Rugby Nutrition:

Supplements – An Integrated approach

Practical and Functional Sport Foods and Supplements

This group includes products that either:

- Have a **practical** role to play (i.e. when appetite is lacking or for travel) or
- Provide additional **nutrients** (e.g. extra carbohydrate or protein) in a more concentrated format (e.g. sports drinks and skim milk powder).

Tips and Watch points

- These products may not always be marketed as supplements and many can be found in the general supermarket aisles. This does not mean that they are less effective, nor does it mean that they are safe.
- Check the ingredient lists as many of these products may contain caffeine, herbals and/or other compounds or stimulants that may be banned and/or have side-effects (e.g. gastro-intestinal).
- Straightforward uncomplicated options with fewer ingredients are generally less problematic.
- Know the difference between an Energy Drink and a Sports Drink.
    - An **Energy drink** may be high or low in carbohydrate or kilojoules (calories), but usually contain high amounts of caffeine and/or other stimulants.
    - A **Sports drink** contains a range of carbohydrate of between 4-8% with electrolytes and have been specifically formulated for sport [1].

- There is no evidence that protein supplements are any better than food, and there are regular foods like egg and milk powders that can be used to get the same effect, often at a cost saving.
    - Food-based proteins give you more nutritional value than the sum of the individual components.
    - It's the plus factor – e.g. in a glass of milk you get the high quality protein + whey, leucine, calcium, phosphorus, vitamin D and so on, and you may not get this package deal in a supplement.

Table 1. Supplements and Sport Foods that may have practical or functional benefits. [5]

Supplement Type/Category	Use and rationale	Comments/Risks
Carbohydrate-based (Sports drinks, gels, cereal and sports bars, powders, and sweets)	Concentrated carbohydrate options and powders are easy-to-digest and are useful when carbohydrate needs are high (e.g. when training for long hours at high intensities) and when appetite is lacking. Non-perishable and powdered options are convenient when travelling.	Overuse may lead to weight gain and, if too highly concentrated, can cause gastro-intestinal problems. Select options according to need, taking into account the duration, the intensity of the event and personal factors.
Carbohydrate-Protein combinations (recovery formulas, fortified breakfast cereals and bars)	A convenient mix of carbohydrate with some protein and may include additional nutrients and electrolytes.	Flavoured milk (fat can be reduced by choosing low fat or fat-free option) has been shown to be an alternative and economical option.
Liquid meal replacements (available as powders or ready-to-drink)	Easy and quick to prepare with an "all-in-one" offering of carbohydrate, protein and fat as well as micronutrients. Useful to have over-and-above meals (for weight gain) and instead of meals (for weight loss), and in environments when real food options may be limited, or as a pre-event meal.	Over-reliance may lead to inappropriate replacement of whole foods. Can lead to weight gain if over-used.

Protein supplements (e.g. whey protein)	Can be used for weight gain, provided they are consumed with adequate carbohydrate. Also useful in some situations when protein is limited. Whey protein is rapidly digested and therefore may be suitable for recovery post- exercise [2]	Many types and concentrations of protein powders are available. Animal-derived protein supplements (dairy and eggs are considered high quality) compared to plant-derived protein supplements (soy and hemp) which may be less effective. ***Note that some have been shown to contain illegal substances like nandrolone.*** [3,4] Liquid protein options are more rapidly digested and absorbed. Can be expensive and, if used inappropriately, can lead to weight gain. Individual amino acids are not advised.

May be used in conjunction with or may support a well-planned dietary program ideally prescribed by a registered dietitian working in sport and must always be tried out in training first.

For more information on *Rugby Nutrition,* go to the BokSmart website www.BokSmart.com or go to the following link: http://boksmart.sarugby.co.za/content/eating-and-drinking-right

REFERENCES

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