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Rugby Nutrition:

Nutrition Periodisation

Being successful in rugby involves **periodising**, **planning** and **synchronizing** your training and dietary programs.

Periodisation is the principle of purposefully designing your training program into different phases (i.e. varying training loads, rest and recovery) to achieve specific short- and long-term adaptations and peak performance at championships ^[1].

By strategically synchronizing your nutrition plan with your periodised training program you will capitalize more effectively on your training efforts.

Besides physiological (fitness and neuromuscular) benefits there are psychological benefits to periodisation that will help you overcome the challenge of performing at a heightened level for many months throughout the year.

The table that follows shows how nutrition can be manipulated in the different training phases.



Table 1: Nutrition for Different Training Phases

	<u>Preparation Phase:</u> <u>General and Specific</u> <u>preparation</u>	<u>Competition Phase</u>	<u>Transition Phase and off</u> <u>season, and active rest</u>
Training	<ul style="list-style-type: none"> • General preparation involves conditioning for strength, power and cardiovascular endurance. • Sport specific preparation includes functional strength training, explosive power and sport specific endurance. • As one approaches competition, intensity may increase and volume decrease. 	<ul style="list-style-type: none"> • Training volume may be lower, but intensity is higher. 	<ul style="list-style-type: none"> • For an elite rugby player, this is the shortest period - it may include some resistance training, rehabilitation and rest away from the rugby environment.
Diet	<ul style="list-style-type: none"> • Energy, carbohydrate and initial protein needs may be higher due to increased volume of training. 	<ul style="list-style-type: none"> • Energy and carbohydrate needs and intake may vary according to the schedule. 	<ul style="list-style-type: none"> • Energy needs are lowest. • Focus on nutrient rich foods and portion control
Strategies and watch points	<ul style="list-style-type: none"> • Time to assess, individualize nutritional plans (and make these specific to the type of training you are undergoing), and achieve body composition goals • Rehearse match nutritional strategies and ensure that these can be implemented at competitions, leagues or tournaments. • Monitor your response (train the way you wish to play) 	<ul style="list-style-type: none"> • When tapering training, reduce calorie intake and focus on nutrient-rich foods to avoid weight gain and to optimize nutrition at competition. • Recovery nutrition is important • Match nutrition • Travel nutrition • Stick to practiced strategies that work; only fine-tune these already rehearsed strategies 	<ul style="list-style-type: none"> • Watch unnecessary weight gain and/or muscle mass loss. • Time to debrief and reassess.

Main take-home points:

- To derive the benefits of periodisation, you need to have a day-to-day, week-to-week, and month-to-month **plan**. This should be linked to annual competitions, tournaments and training camps.
- Use a diary to **log** your training (<http://www.sarugby.co.za/boksmart/pdf/BokSmart%20-%20Periodisation%20and%20monitoring%20of%20overtraining%20in%20rugby%20players.pdf>) and nutrition so that you can systematically fine-tune interventions^[2].
- Keep a log of your training program's Rating of Perceived Exertion (RPE), average sleeping heart rate, diet (number of meals, snacks, recovery snacks, quality of diet, alcohol, caffeine intake, supplements and weight) and also ratings of mood state and enthusiasm. For more information on logging or monitoring your training, go to the following link: (<http://www.sarugby.co.za/boksmart/pdf/BokSmart%20-%20Periodisation%20and%20monitoring%20of%20overtraining%20in%20rugby%20players.pdf>)
- If you don't allow for sufficient recovery time, you will not adapt to the training load – this will result in fatigue and loss of form
- Imbalances over time will result in chronic fatigue especially when confounded by poor nutrition, illness and psychological stress.
- Make minor changes/adjustments to training load and nutrition, based on how you are responding and adapting

Note: There has been some interest in the concept of 'train low compete high' in team sports with the notion that this stimulates greater adaptation and fuel efficiency. This is based on the theory that by training with low carbohydrate stores or carbohydrate availability (train low), adaptations will occur that enhance the use of fat as a fuel (the body has plenty of fat reserves), thus sparing carbohydrate. Carbohydrate intake should then be increased just before competitions, when performance at higher intensities may be required (compete high). However, the performance benefits are unclear, and requires further research and experimentation. There are a number of ways to reduce carbohydrate availability in training or recovery: (i) doing 2 training sessions in close succession without refuelling, (ii) training in a fasted state and (iii) withholding carbohydrate provision during the early recovery period.^[3]

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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2. Meltzer S and Hopkins N. Nutrition for Technical and Skill-based training. In: *Sport and Exercise Nutrition*. First Edition. 2011. The Nutrition Society. Blackwell Publishing Ltd.
3. Burke LM. Nutrition for post exercise recovery a review of current opinion. In PINES: Sport Nutrition Conference. Paris 2013.

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