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Rugby Nutrition:

Achieving Body Composition Goals – Practice Tips

Whether you need to increase or maintain high levels of muscle mass for strength and power, and/or if you need to lose or maintain low body fat levels for speed and agility, the following core principles apply:

- Establish **realistic goals and appropriate timing**:
 - Firstly, you need to establish what your goals are, and then you can focus on the ‘when’ and the ‘how’.
 - Unique strategies are required for each goal (see Table 1) and it does not always make sense to combine different goals at a particular time. You need to **prioritise** your goals...
 - To increase lean muscle mass demands more energy and protein, whereas a decrease in body fat levels requires a reduction in both energy and protein intakes.
 - Decreasing body fat levels should be restricted to off-season training and is best avoided during in-season.
 - Strive towards an annual weight management plan taking into account your full calendar of competitive events, training programmes and holidays, remembering to cut back on total energy intake where required to avoid unnecessary weight gain.



- Regular **monitoring** of your body mass, percentage muscle mass and body fat is needed to see if you are meeting your goals.
 - It is also useful to keep a **food diary** to monitor your diet. Note that your diet may need to be adjusted as your body composition changes.
 - For example, as your body mass and muscle mass increase, you will need to increase your energy and macronutrient intake to maintain this higher mass.
 - Similarly, losing fat mass is a shifting target, requiring ongoing dietary and exercise adjustments.
- Ensure that your dietary choices support your training program, and both are aligned towards achieving your training goals.
- Address both your **total energy (kilojoule) intake and diet composition (the quality and quantity of carbohydrate/proteins/fat** ^[1]. Fluid can be manipulated to suit your goals. (See Table 1)
- **Avoid trends and short cuts.** Just because there's a lot of social and media hype about a particular diet, weight loss or weight gain method, does not mean it's appropriate for you. Fad diets, rapid weight loss and weight cycling (yo-yo dieting) will reduce your strength and performance.
 - A reasonable goal for fat loss is 0.25-0.5 kg/week of body fat. The temptation to use supplements and/or drugs for weight or fat loss is strongly discouraged as they may be unsafe and/or may contain banned substances.
 - Realistic expectations for weight gain are 0.25-0.50 kg increase in body mass per week. If rates are higher, this is likely to include an increase in body fat stores that may have to be reduced at a later stage.

Depending on what your **body composition** goal is – i.e. whether you want to lose weight or body fat and/or maintain or increase muscle mass, the appropriate dietary strategies are outlined in Tables 1 and 2 below.

Table 1: Dietary strategies to (i) lose weight and to (ii) lose fat and maintain your muscle mass
[1,2,3]

	Body Composition Goal	
	Weight Loss	Maintain Muscle Mass Decrease Body Fat
Energy (kJ)	Decrease by 2100 – 4200 kJ/day (500 – 1000 kcal)	Decrease by 2100 kJ/day (500 kcal)
Include nutrient-rich protein and carbohydrate at all meals. Control your portions of food. Add volume to your meals with salad and vegetables.		
Protein (g/kg body weight)	1.5 – 2.0	2.2 – 3.0
Carbohydrate (g/kg body weight)	Not <3 – 5	3 – 5
Choose higher fibre filling foods (wholegrains and whole wheat foods)		
Fat (% total energy)	Not < 15	15 – 25
Choose healthy fats		
Fluid		
Don't drink your kilojoules and avoid/limit alcohol. Instead of juicing, eat your fruit. Drink water during the day when thirsty.		
Timing of food intake		
You can replace your recovery snack with a meal to save kilojoules provided you eat within 1 hour of training.		

Table 2: Dietary strategies to (i) maintain or (ii) increase your muscle mass ^[1,2,3]

	Body Composition Goal	
	Maintain Muscle Mass	Increase muscle mass
Energy (kJ)	Maintain energy intake ensuring nutrient-rich options	Increase the number of meals and snacks. Make use of energy-rich food and drinks, e.g. sports drinks, fruit juices, smoothies, dairy drinks, bars, dried fruit, etc.
Protein (g/kg body wt)	1.5 – 2.0	2.2 -3.0
Protein intake goals can be achieved with a high energy diet unless there is limited access to protein-rich foods.		
Carbohydrate (g/kg body wt)	3 – 7	5 – 7
Choose lower fibre less filling foods if appetite lacking.		
Fat (% total energy)	20 – 35	20 – 35
Choose healthy fats.		
Fluid		
	Your strategy will depend on the overall quality of your diet.	Include high energy drinks. Replace diet drinks and large volumes of water with sports drinks, juices or low-fat dairy drinks.
Timing of food intake		
Timing of protein intake is very important. Include protein at meals and consume together with carbohydrate-rich recovery snacks after training to enhance anabolic processes. Recovery snacks include low-fat fruit yoghurt, smoothies, cereal with milk, biltong and fruit.		

REFERENCES

1. Galgani J, Ravussin E. Energy metabolism, fuel selection and body weight regulation. *Int J Obesity* 32 Suppl 7, S109-119, 2008.
2. Westerterp-Plantenga MS, Nieuwenhuizen A, Tome D, et al. Dietary protein, weight loss and weight maintenance. *Annu Rev Nutr* 29, 21-41, 2009
3. Manore MM. Weight Management. Chapter 7. In: *Sport Nutrition Conference Colorado Springs* 2011.

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>

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