National Performance Nutrition Newsletter

June/July 2011

Rugby Grub - Issue [4]

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Peta, Kate, Christine, Sophy & Gary

Diet and Rugby Performance… Does it really matter?

The science of sports performance is becoming increasingly complex these days, with athletes every move captured on video and GPS. There's a full spectrum of support services available and an ever increasing number of factors to consider, from doctors & physio's keeping you on the field through to sports psychologists to help manage your grey matter and conditioning coaches to ensure you are robust & fit enough to get through the challenges of a full rugby season. For some, it can be a little daunting, not knowing where to best invest your energy. Aspiring to be the best rugby athlete you can should also demand consideration of what goes into your mouth… what, when & how much you eat & drink each day.

Diet & rugby performance

For some athletes, consideration of their diet only occurs when there is a need to change their body composition or shape. For example, an under muscled back wanting to have a greater presence on the field by bulking up or a forward trying to increase their mobility by dropping body fat. In this situation, careful consideration of dietary intake is key to the success or failure of the program but if you aren't trying to change your shape or size, does diet really matter?

While your food & fluid intake are critical during periods of weight gain & loss, diet also plays a critical role in a number of other important outcomes of key importance to rugby athletes, including…

- Energy levels to fuel training & games
- Recovery from training sessions & games
- Immune system function & your resilience to getting sick
- Overcoming injuries and periods of significant muscle soreness, &
- Promoting adaptation to the training stimulus

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Take Home Tip…

Using diet to maximise your abilities as a rugby athlete doesn't demand avoiding your favourite foods. Rather, consideration should be given to a range of issues, including immediate fuel/fluid needs to support recovery & fuelling, your energy needs & other essential nutrient needs. Knowing the nutritional value of foods allows you to select combinations of foods that also taste great!

Diet and Rugby Performance cont…

Failing to recognise the value of your diet in helping to boosting energy levels, fast tracking recovery and enhance resilience to illness ensures you aren't as well prepared as you could be. What's more, you don't need to be perfect to reap the rewards of taking consideration of your diet. Using your food & fluid intake to maximise your abilities as a rugby athlete doesn't demand avoiding all of your favourite foods. Rather, consideration should be given to a range of issues as you plan your meals, including immediate fuel & fluid needs to support recovery & fuelling/ hydration needs, your daily energy needs & global requirements for other nutrients essential to good health and optimal sports performance like adequate vitamin and mineral intake. What's more, a wider grasp of the nutritional value of foods allows you to select combinations of foods that taste great and can be sourced both at home but also when out. Use the following top 10 tips to make the most of your diet as a rugby athlete.

Rugby Top Ten Nutrition Tips…

1. Allow your energy intake to vary based on your energy needs, more on heavier training days, less on lighter or non-training days
2. Always include a pre-training snack with a hit of carbs, the energy in the meal/ snack will become available during the session, increasing your work capacity
3. For longer or more intense training sessions (say > 60-90 minutes), consider the use of a sports drink. It gets fuel to the muscles when they need it most. What's more, recent research suggests even small amounts of sports drinks can boost performance, most likely because of a direct effect on the brain
4. Your muscles are most responsive to carbs & protein immediately after training. Always include a post-training snack from clever combinations of foods/ drinks to obtain valuable amounts of both carbs & protein
5. Weighing yourself before & after training provides invaluable feedback on how well you've been able to match fluid intake to losses. In recovery, consume 150% of your post-exercise fluid deficit e.g. if you lost 1 kg during a session, consume 1.5L of fluid in the 2-3 hrs afterwards. When recovery times are brief or weight loss substantial, including higher salt foods (bread, pretzels, flavoured rice cakes etc) in your post-exercise snack can help support more aggressive rehydration
6. Including a small serve of protein rich food at each meal and snack not only helps to support muscle repair and rebuilding but may also help to control your appetite. High quality proteins like those obtained from meats (red & white), eggs and dairy products may be particularly valuable, providing both protein and other essential nutrients like iron, zinc and calcium. Only smaller serves of these foods are required
7. Identify fact from fiction in the supplement industry wit the support of your sports performance dietitian.
8. Develop a game preparation meal plan with your sports performance dietitian to be followed in the 1-2 days before a game, as well as game day. Don't leave things to chance
9. Build up a repository of recipes you feel comfortable in preparing. Foods from home provide greater nutritional value & they'll also save you coin.
10. Select foods & drinks that meet both your sports performance goals as well as your flavour preferences… enjoy what you eat

Rugby Grub…

The slow cooker (or crockpot) took off in the early 1970s but has had a revival in recent years, and it's easy to see why. It makes flavoursome meals with minimal fuss and is a lifesaver for busy athletes. While the cooking time is long, the preparation is minimal, so you can set the slow cooker to low and let it bubble away while you're at training. As a bonus, slow cookers help you save money, too - they work best with cheaper cuts of meat and use less energy than an oven. Slow cookers are available from department stores and kitchenware outlets in sizes from 3.5L to 6.5L, and prices start from about $30 up to $150.

Slow Cooked Lamb Curry

Ingredients (serves 6)

- 1/4 cup plain flour
- 800g diced lamb shoulder
- 2 tablespoons olive oil
- 1 large brown onion, chopped
- 2 garlic cloves, crushed
- 4cm piece fresh ginger, peeled, grated
- 1 long red chilli, finely chopped
- 1/4 cup Indian madras curry paste
- 270ml light coconut milk
- 1 teaspoon Vegeta gourmet stock powder
- 1 cinnamon stick
- 1 dried bay leaf
- steamed rice, yoghurt, naan bread and chopped fresh coriander, to serve
- 1 tbs olive oil

Method

1. Place flour and lamb in a snap-lock bag. Season with salt and pepper. Seal. Shake to coat. Heat oil in a saucepan over medium-high heat. Cook lamb, in batches, for 3 to 4 minutes or until browned. Transfer to a 4.5 litre-capacity slow cooker.
2. Add onion, garlic and ginger to pan. Cook, stirring, for 4 to 5 minutes or until tender. Add chilli and curry paste. Cook, stirring, for 1 minute or until fragrant. Add coconut milk, stock powder and 3/4 cup cold water. Bring to the boil. Transfer to slow cooker. Add cinnamon stick and bay leaf. Stir to combine.
3. Cook, covered, on LOW for 6 hours or until lamb is tender. Remove and discard cinnamon stick and bay leaf. Serve with rice, yoghurt, naan and coriander.

ANALYSIS per serve	6	6 (+1C rice)	6 (+2C rice)
Energy kJ	1430	2400	3400
Carbohydrate (g)	10	65	116
Protein (g)	33	38	43
Fat (g)	19	19	19

Female (mum/ wife/ partner/ potential girlfriend) Impact Factor: ★★★★

Source: Taste.com.au website

Want some inspiration? Check out the Taste website for a huge range (>21000) of recipes… Taste.com.au

Got a kick butt recipe you want to share? Submit your recipe to Gary at gary.slater@rugby.com.au

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Supplement Low Down… Creatine

When Linford Christie became the oldest man to win the Olympic Gold in the 100m at Barcelona in 1992, he kicked off a creatine craze that spread to every corner of the sporting world. While interest in creatine has waxed & waned in recent years, it remains one of only a handful of sports supplements shown to consistently enhance performance in sports characterized by repeat, high intensity efforts. While we often think about creatine as a 'weight gainer', it benefits an athlete by enhancing recovery between repeat bouts of high intensity exercise, allowing you to do more work. For a rugby athlete that might means faster sprints towards the back end of a session or more reps in the gym. For injured athletes, creatine supplementation may help reduce the muscle mass loss that often occurs

Which creatine supplement is best?

Creatine has traditionally been consumed as creatine monohydrate but recent aggressive promotion of alternative forms of creatine (such as creatine ethyl ester or creatine malate) claimed to assist in faster or more complete uptake of creatine can leave an athlete confused. While the promotional material associated with ethyl ester form of creatine sounds compelling, research has confirmed creatine ethyl esters are actually broken down into an inactive form of creatine in the acidic environment of the stomach. The moral of the story…when you're on a good thing stick with it! Creatine monohydrate remains the product of choice.

Safety

Driven by anecdotal reports of cancer risk, dehydration, kidney disease, muscle cramps and strains, debate continues over the long term safety of creatine supplementation. However, scientific investigations conducted over periods of up to a year have shown no adverse effects of creatine supplementation when consumed in amounts in line with current guidelines. While this suggests creatine supplementation appears to be safe, caution should be made by those with existing kidney disease. Similarly, individuals with a history of compartment pressure syndrome should avoid creatine supplementation as it's likely to exacerbate this painful condition.

While creatine supplementation can be a valuable supplement for rugby athletes, not all athletes respond to creatine. In fact, upwards of 30% of people are 'non-responders', presumably because they have naturally high muscle creatine stores. If you are a responder to creatine, it's also likely that supplementation will result in a small but rapid increase in body weight of 0.5-1.0 kg soon after loading due to additional fluid retention.

Interested in creatine supplementation? Follow the guidelines below to maximise your return on investment…

- ***Rapid loading*** can be achieved by five days of repeated doses of creatine at ~25 g a day This is best achieved over 5 even doses of 5 g (slightly heaped teaspoon). A similar response occurs over a month by taking a daily dose of 3 g i.e***. slow loading***. Thereafter, you'll need to continue with a daily dose of 3 g to maintain the elevated muscle creatine stores (i.e. ***maintenance dose***) otherwise your creatine stores will return to pre-loading levels within approximately one month.
- It makes sense to cycle creatine supplementation with your training, making use of creatine during periods of repeat high intensity efforts while cycling off it during lower intensity blocks.
- Taking creatine with carbs enhances muscle creatine uptake by about 60% so it's a great idea to take your creatine with food. While commercially available mixes of creatine and carbs appropriately termed 'creatine transports systems' sound appealing, you'll likely get the same response by taking your creatine with a good carb based meal or snack and save yourself some cash.
- Recent research suggests your muscles are more receptive to creatine when ingested close to exercise and may facilitate greater uptake so it's smart to take your creatine with a pre or post training snack on training days.

Chat with your sports performance dietitian to decide if creatine supplementation is right for you. As with ALL supplements, the benefits of creatine are small relative to those you'll reap from optimizing your training & diet.

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Guru Goss… Answering Your Questions

"I really struggle having anything to eat before a morning training session. I this an issue?"

Having breakfast or a small snack before a morning training session is critical if you are going to make the most that session given the last time you ate may have been 8-12 hrs ago. For athletes trying to gain or prevent weight loss, this also reduces the time available to reach your food intake targets. However, this needs to be balanced against maintaining gut comfort. Have a go at just taking your usual breakfast but set your alarm 30 min earlier or make breaky your first priority when you get up, giving the food a chance to digest before training. Alternatively, make use of a liquid breaky like a home made smoothy (milk, fruit, yoghurt & honey), Up & Go tetra pack or 1-2 tubs of yoghurt. Liquids are taken up from your stomach faster, ensuring there's less chance of you feeling sick. Start small, working with an amount you can easily tolerate & gradually build this up to something more substantial with time. On days you can't tolerate much at all, be sure to make use of a sports drinks during the session to maintain energy levels.

"Is having a few brews with the boys after a game really such a big issue ?"

If you choose to drink, moderating your intake to only a few drinks (i.e. 2 drinks) after a game is unlikely to impact on important post-game recovery strategies, especially if you get the recovery process started in the post-game period by selecting a mix of foods & fluids to supply essential fluid, electrolytes, carbohydrates & protein in that post-exercise period. The challenge arises when alcohol intake increases to the point where various bodily functions important to recovery are impaired. As a consequence, rehydration can be delayed, swelling promoted, testosterone levels lowered & adaptations important to recovery impaired. Get your priorities in check, implement your recovery strategies & then, if you've still got space for a few beers, enjoy them with your mates BUT know when to put the brakes on!

"I've been cramping towards the back end of a game. Should I increase my salt intake more?"

While we often think of cramps developing because of dehydration & electrolyte depletion, the true cause of exercise associated muscle cramps (EAMC) is poorly understood. What we do know is that EAMC occur predominantly when you're fatigued & as such, explore ALL factors that can help reduce fatigue during a game… include some game intensity training during the week to help improve your fitness while also tapering your training so you start each game fresh; allocate more of your plate real estate to carb rich foods 1-2 days before a game as well as boosting your total fluid intake over the same time frame to ensure you start the game well hydrated; drinking enough so that weight loss during a game is no more than 2-3% of your body weight & make sports drinks your drink of choice. The most compelling science suggests EAMC result from altered neuromuscular control so take the time to review your stretching routine with your physio as well as discussing other potential medical solutions with your sports doc.

Research Ramblings

The Science…

Training in the morning before breakfast is a common recommendation for athletes attempting to drop weight. Presumably this training philosophy allows an athlete to burn more fat during the session, promoting body fat loss. While there is some evidence that the burning of fat as a fuel is greater when exercising after an overnight fast, other critical factors like total energy burnt over the day have not been considered. In this investigation, subjects ran on a treadmill either before or after consuming a standard breakfast. Energy expenditure over the subsequent day was monitored. While there was a slightly greater amount of fat used as a fuel when training fasted, any impact of this was negated by the higher total energy expenditure of individuals when training was undertaken after breakfast.

Take Home Message…

If you are striving to decrease body fat levels, training before breakfast is NOT necessary. In fact, total energy expenditure seems to be greater when exercising after a meal & if energy expenditure is greater, then success in weight loss is more likely. Unless advised otherwise by your sports performance dietitian, ALL training sessions should be preceded by a snack or meal, ensuring fuel reserves are adequate. This not only appears to help maintain metabolic rate but will also likely result in better training quality.

Paoli et al. Exercising Fasting or Fed to Enhance Fat Loss? Influence of food Intake on respiratory ratio and excess post-exercise oxygen consumption after a bout of endurance training. International Journal of Sport Nutrition and Exercise Metabolism. 21:48-45, 2011.