NUTRITION FOR RUGBY

Rugby union is a game of strength, skill and speed. It is characterised by short bursts of high intensity running and heavy tackling, interspersed with periods of recovery. Games are played over 40 minute halves, with a 10 minute half time break.

Training

Like many team sports, the rugby union season is divided into three phases - pre-season, competition and off-season. At the professional level, the amount of time spent in each period can vary quite markedly between players with or without international commitments.

The off-season can range in length from 1-2 months. While no formal training is scheduled during this period, most professional players will be required to return to pre-season training at a certain level of fitness, so an off-season without any training is unlikely.

At the professional level, the pre-season usually begins in September or October. However for those players with international commitments, it can be as late as January. Though the type of training a player will undertake is likely to be position specific and individualised, it will generally involve a combination of interval/speed sessions, large amounts of strength work and some endurance. A lot of endurance and interval training is now carried out through game-based drills and small sided games. Near the end of the pre-season, teams will incorporate more game focused training including contact, as well as play a series of trial matches to fine tune match skills and conditioning.

The competitive season typically involves one match per week. The focus of the period in between games is on recovery, maintenance of strength and fitness, as well as tactical training for the upcoming game. A typical week may include 2-3 gym sessions, 3-4 team based training sessions and a day (usually the day after the match) dedicated to recovery.

Competition

The Super 14 competition is played as a weekly competition and runs from February through May. Games are usually played on weekends during the afternoon or evening across different continents and time zones. Selected players will also compete at international level, typically between July and November. Players not involved at the international level will usually compete in state based club competitions over the same period.

During an 80 minute game of rugby, the ball is typically only in play for approximately 30 minutes, with the remaining time made up of injury stoppages, setting up for scrums/line-outs and kicking for penalty goals/try conversions. Typical distances covered are ~5.8 km, with 2.2. km at walking pace, 1.6 km jogging and 2.0 km sprinting, with typical sprint distances being an average of ~20 metres. Backs, in their role as ball carriers generally cover greater

distances than forwards. Games can be played in a variety of environmental conditions, ranging from very hot and/or humid to very cool conditions.

Physical Characteristics

While the physical characteristics of Rugby Union players will vary depending on their role within the team, a large degree of muscle mass is a typical trait in most of them. In their role as ball carriers, backs need to be quick and agile, and therefore tend to be lighter and leaner than forwards. That said, loose forwards will likely be leaner than the tight five forwards.

Common Nutrition Issues

Gaining muscle mass

The goal for many development Rugby Union players seen at the AIS is to achieve gains in lean body mass. Consuming sufficient energy and macronutrients to achieve such gains can be difficult, given their already high energy requirements and training load. To achieve the level of energy intake required, players should consume ~6 meals/snacks a day, with a focus on nutrient dense carbohydrate rich foods that also provide moderate amounts of protein. Planning of these meals and snacks ahead of time is vital to ensure they do not miss meals and/or make poor choices due to lack of access or availability to suitable foods. Cooking classes and shopping tours can serve as valuable tools to develop nutrition skills and knowledge, as well as enhance the player's ability to identify appropriate meal and snack options.

Another key strategy in promoting gains in or at least maintaining lean body mass is through the strategic intake of appropriate foods/fluids during and after hard training sessions. Intake of carbohydrate during a session (e.g. sports drink, gels) can not only help to enhance training performance through provision of fuel for the working muscles and central nervous system, but also make it easier to meet overall daily energy requirements. During the immediate post training period (both team and weights sessions), it's important players consume a snack that contains both a good source of carbohydrate and protein. Providing a range of appropriate snacks (e.g. yoghurt, liquid meal supplements) for the whole team at the training venue is an effective way reinforce positive behaviours relating to this aspect of nutrition recovery (see the recovery fact sheet for more information).

Hydration Through a Game

Though the impact of dehydration on rugby performance has not been well investigated, studies of simulated match play in other team sports have shown that it can have a negative impact on movement patterns and skill level. Therefore it is vital that players implement strategies that allow them to start each match well hydrated and that they use any breaks in play (e.g. try conversions, injury) as an opportunity to top up fluid levels during the game. This is especially important when playing in hot and humid conditions (see the Hydration Fact Sheets on our website for further hydration tips).

Promoting recovery after a game

While a game of rugby union is unlikely to deplete muscle carbohydrate (glycogen) stores completely, it is likely that, especially for the backs, the loss will still be significant. Further, there is some evidence to suggest that excessive muscle damage (caused in rugby by the contact incurred during the game and time spent in isometric contraction, especially by the forwards), may slow down the rate of glycogen re-synthesis and an intake greater than that typically recommended may be needed to overcome this. It is therefore vital that players consume adequate amounts of carbohydrate, especially during the immediate post game period, to promote rapid refuelling of glycogen stores. Failure to do so will likely slow down the recovery process and by extension, compromise training performance between matches. The addition of protein in the recovery foods and fluids consumed after the match will help promote muscle protein synthesis.