

# CONSIDERATION FOR RUGBY SEVENS-SPECIFIC TRAINING SCHEDULES

**Matt Blair**

## INTRODUCTION

Rugby Sevens is a global sport, with increasing attention being paid to the physical loads endured by players during a Sevens tournament (Ross, Gill & Cronin, 2014). Sevens matches involve high-intensity intermittent exercise (HIIE) (Ross et al.), and the distinctive nature of this type of activity has been reported in a recent investigation into the metrics of World Series Sevens tournaments (Blair; Body & Croft, 2017). This study reported a variety of GPS metrics that clearly demonstrated how the levels of metabolic power – which represent the explosive elements of movement in a match, such as high-speed running and surges (sprints) – were much greater in Sevens than Fifteens. Consequently, Sevens tournaments involve significant physical work and a cumulative load over two to three days that is much more than that experienced in a weekly Fifteens match (Blair et al.). In preparing a Sevens player, coaches need to acknowledge this load difference. Interestingly, most Sevens coaches have extensive backgrounds in Fifteens, and therefore more experience with the weekly Fifteens match scenario.

Developing Sevens-specific training schedules for tournaments should combine both practical and theoretical considerations. Importantly, the schedule needs to consider the integration of key team departments using an interdisciplinary framework (Joyce & Lewindon, 2014). These departments comprise players and their support staff who include coaches, managers, sport science and sport medicine practitioners. During the creation and implementation of training schedules, there is often a wide variety of conflicts between these departments; to an extent, this is normal and part of the process of developing a schedule that is co-created and has 'team buy-in.'

Coaches at the 'coal face' often lead teams and have historically developed schedules through trial and error over a period of time. These methods have been passed on through generations of coaches, who continually adjust and implement them in accordance with what they find works best. While this practice-based evidence approach is critical to the advancement of training methods, it is only one part of the equation in terms of ongoing performance success. Modern sport science provides the evidence-based practice approach which underpins another vital part. Science can help explain the 'why?' (or 'why not?') behind the level of success achieved by the variety of training methods employed in high-performance sporting environments. For example, the way energy systems are engaged with a range of physical activity has contributed to programmes being designed to meet the actual demands of a particular sport (Deutsch, Kearney & Rehrer, 2007; Castagna, Abt & D'Ottavio, 2004), underpinning the training principle of specificity. Further, it has been established for some time that the benefits obtained from these programmes only occur when the conditioning stimulus overloads the actual demand that is required by the game (Dascombe, Reaburn, Arnold & Coutts, 2003; Weston, Helsen, MacMahon & Kirkendall, 2004). Herein lies the challenge with Sevens rugby; there is more than one game in a tournament.

### Training schedule - External (GPS PMS) and internal load (RPE)

Multiple tournament matches are played over a one-to-three-day period, in contrast to rugby Fifteens, which follow a cycle of once-weekly games. Therefore, the overall external and internal physical load and specific metrics required by a Sevens tournament need to be considered together with technical training (style of play) to help optimise on-field performance outcomes. While annual periodised planning is beyond the scope of this report, an example target pre-season training week schedule for a professional Sevens team (see Table 1) suggests what a week's routines might look like when preparing for a three-day tournament. Pre-season is an opportune time to integrate styles of play, even if the period is short, and the conditioning coach needs to be closely coordinated with the coaching staff to ensure that technical sessions achieve conditioning goals (Joyce & Lewindon, 2014). Measures from a recent investigation of the metrics of World Series Sevens tournaments were used to illustrate how they can contribute to the design of Sevens-specific training schedules (Blair, Body & Croft, 2017). Importantly, these schedules need to consider measures from this type of investigation, such as RPE and the unique PMs of a Sevens match, as well as the cumulative load through the tournament, which is very different from weekly Fifteens matches

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
am	Prehabilitation / Activation: Options include proprioception, balance, activation (e.g., hard foam roller on hip flexors and front shoulders) and other tissue-release techniques, dynamic flexibility, high-intensity running and strength-power patterns together with mental skills work (meditation, hypnotherapy, etc.)	Options include proprioception, balance, activation (e.g., hard foam roller on hip flexors and front shoulders) and other tissue-release techniques, dynamic flexibility, high-intensity running and strength-power patterns together with mental skills work (meditation, hypnotherapy, etc.)	Rest and relax	Recovery: Light walk and/or pool session	Prehabilitation / Activation: Options include proprioception, balance, activation (e.g., hard foam roller on hip flexors and front shoulders) and other tissue-release techniques, dynamic flexibility, high-intensity running and strength-power patterns together with mental skills work (meditation, hypnotherapy, etc.)	Game simulation Focus: RPE 7+/10+, HIA Sp Distance (m) (450) with increased field size Recovery	Game simulation Focus: RPE 7+/10+, HIA Sp Distance (m) (450-500) and combat activities; with reduced field size Recovery
pm	Reviews and checks between team departments: players and support staff – coaches, managers, sport science and sport medicine	Field-based Sevens training, including repeated speed work with weighted and normal balls (mod-hi intensity) Recovery	Rest and relax	Rest and relax	Game simulation Focus: RPE 7+/10+, HIA Sp Distance (m) (450-500) and include 6-8 x surge (sprint) efforts up to 75m; standard field size Recovery	Game simulation Focus: RPE 7+/10+, HIA Sp Distance (m) (450-500) and combat activities; with reduced field size Recovery	Game simulation Focus: RPE 7+/10+, HIA Sp Distance (m) (450-500) and combat activities; with reduced field size Recovery
eve	Rest and relax	Preparation: Mental skills work (meditation, hypnotherapy, etc.)	Preparation: Mental skills work (meditation, hypnotherapy, etc.)	Preparation: Mental skills work (meditation, hypnotherapy, etc.)	Recovery: Massage and ROM work	Game simulation Focus: RPE 7+/10+, HIA Sp Distance (m) (450) and include contact; reduced field size Recovery	Game simulation Focus: RPE 7+/10+, HIA Sp Distance (m) (500*) and 10-12 x surge (sprint) efforts up to 60m; standard field size. Recovery

Table 1. Example target preseason training week schedule for a professional Sevens team.

Notes. Recovery options: active (e.g., 10 minute easy-moderate walking) vs. passive (eg, nutrition, massage and mental skills)  
Use of cross-training options (e.g. spin cycle and boxing) at the training ground for injured players and/or those who are not capable of pushing capacity to the target levels (individual monitoring required).

Key: HIA, high-intensity activity; W/kg, watts per kilogram

Essentially, the week is constructed to prepare for a three-day Sevens tournament. Friday, Saturday and Sunday are typical tournament days and, when three days are involved, the first day of match play is usually shorter than the others. While it is widely recognised that there is a need for player individualisation, the practical implications considered here relate to how both RPE and GPS PMs inform schedule development for the team. Individual targets based on needs analysis would also be set alongside the team targets. Importantly, the training sessions need to have players working consistently at RPE at and above 7/10+. However, to assess this rating correctly, players would need a trial period that allows them to become familiar with what it represents and why monitoring internal training load is important. High-speed running metres and surge (sprint) efforts are two essential high-speed metrics that could be used to monitor external loads of sessions and set targets (Blair, Body & Croft, 2017). High-speed running metres for each session within the week range from 450-500 and 500+, while surge (sprint) metres range from 50-70 x 6-12 efforts. Along with RPE, these PMs are at and above the respective match means of 344m and 39m (with 7.5 efforts) reported for World Series Sevens tournaments (Blair, Body & Croft, 2017). Importantly, players would on average cover more than 3000m high-speed running, which incurs an overload above the cumulative tournament total of 2063m presented in this study.

When these two metrics and RPE are monitored using analysis during and post-session, discussion of how to adjust physical parameters within and between sessions can occur. Focusing on these three variables does not mean that the others are neglected; rather, it simplifies the session monitoring and makes it coach-friendly. This ensures that players are working above the requirements of a Sevens match and doing this over a period of three days, simulating what is required in a three-day tournament. Other metrics, such as high-speed acceleration and deceleration, would also be monitored. This approach would allow levels of specificity and overload to be adjusted in accordance with previous screening and physical monitoring that provides the opportunity to set an appropriate training stimulus. For example, some professional Sevens teams might be completing a mean high-speed running distance of 500m during matches and up to 600m+ in some of their training sessions, whilst simultaneously achieving RPE session scores at and above 8/10+.

It is appreciated that there is variation between these types of plans and actual training sessions undertaken. Player illness and injury, team performance (optimal vs. sub-optimal) and resource availability mean that support staff need to be agile and continually adjust sessions according to requirements on any given day. However, simulating tournaments provides the opportunity for the team departments to practice for the real tournament, thus providing occasions to ensure 'team buy-in' with challenging events both on- and off-field. This practice should be very different to what Fifteens players and their support staff complete, as the cumulative physical metrics of a Sevens tournament exceed the weekly Fifteens match by a very large amount. Coaches working in Fifteens and Sevens rugby need to be mindful of this.

### Further considerations

The example weekly schedule will prompt important questions that need to be addressed when these measures are developed and implemented. These might include:

-Should a tournament simulation (and varied formats) be completed prior to all tournaments?

-What type of load progression should be implemented over the months as the players improve their individual and collective Sevens-specific physical condition?

-How can physical conditioning session options such as strongman, combat, medium (Maximum aerobic speed – MAS) and short-interval (repeated speed), and speed (anaerobic power) training be incorporated not only into game simulation sessions, but also in regular conditioning sessions?

-Have players returning from injury demonstrated an ability to cope with a game simulation training session?

-Was the simulation period used effectively to try new training patterns, conditioning activities and mental skills training? If so, how can the efficiency of these new approaches be measured and therefore considered (or rejected) for integration into future sessions?

-What method can be used to measure and apply strength and conditioning scores such as monotony, strain and acute: chronic fatigue? These types of load measures are currently underpinning schedule development and monitoring in many HIIÉ sports (Gabbett, 2016).

-What considerations are needed with Fifteens players used in a Sevens environment – for example, the impact this has on their physical capacity to train?

## CONCLUSION

While GPS is a tool that provides objective metrics of the physical requirements of the Sevens game, the real benefits come from asking the type of questions listed above. GPS can highlight matters relating to the physical preparation of the athletes, but when these questions are considered and addressed by team departments, then positive contributions to schedule development – an ongoing, dynamic process – can occur.

**Mathew Blair** completed his undergraduate and postgraduate qualifications at Otago University and Otago Polytechnic, completing degrees in physical education and nutrition, a graduate diploma in tourism and a graduate certificate in teaching. Throughout this period of study (1988-2010), he has held professional roles as a coach, teacher and activity coordinator in the health and wellbeing sectors, and also with professional rugby. This has included 20 years as a personal trainer; strength and conditioning coaching in elite-level rugby; athletic performance coordinator; five years as a tutor at the Otago University School of Physical Education; and 15 years lecturing at the Otago Polytechnic Institute of Sport.

Correspondence to: Matt Blair, College Te Oha Ora, Sargood Centre, Otago Polytechnic, 40 Logan Park Drive, Dunedin 9016, New Zealand. Email: [Mat.blair@op.ac.nz](mailto:Mat.blair@op.ac.nz).

## REFERENCES

- Blair, M., Body, S., & Croft, H. (2017). The Physical metrics of world series sevens tournament matches. *Scope (Activity & Health) 1* (1)
- Castagna, C., Abt, G., & D'Ottavio, S. (2004). Activity profile of international-level soccer referees during competitive matches. *Journal of Strength Conditioning Research, 18*(3), 486-90.
- Dascombe, B., Reaburn, P., Arnold, T., & Coutts, A. (2003). Physiological responses of sub-elite rugby referees during representative match play. (Abstract). *Journal of Science & Medicine in Sport, 6*(4), Supplement 1, 30. [http://dx.doi.org/10.1016/S1440-2440\(03\)80093-2](http://dx.doi.org/10.1016/S1440-2440(03)80093-2)
- Deutsch, M. U., Kearney, G. A., and Rehrer, N. J. (2007). Time-motion analysis of professional rugby union players during match-play. *Journal of Sports Sciences, 25*(4), 461-471.
- Gabbett, T. (2016). The training—injury prevention paradox: should athletes be training smarter and harder? *British Journal of Sports Medicine, 50*(5), 1-9.
- Joyce, D., & Lewindon, D. (Eds). (2014). *High-Performance training for sports*. 1 ed. Champagne, IL: Human Kinetics,
- Ross, A., Gill, N., & Cronin, J. (2014). Match analysis and player characteristics in sevens rugby. *Sports Medicine, 44*(3), 357-367.
- Ross, A., Gill, N., & Cronin, J. (2015). The match demands of international rugby sevens. *Journal of Sports Sciences, 33*(10), 1035-1041.
- Weston, M., Helsen, W., MacMahon, C., & Kirkendall, D. (2004). The impact of specific high intensity training sessions on football referees' fitness levels. *The American Journal of Sports Medicine, 32*(1 Suppl), 54S-61S.

