



Rugby

Post Game Recovery Strategies for Rugby

Ian Jeffreys, MSc, CSCS,*D, NSCA-CPT,*D

No matter how sophisticated and carefully planned a training program, without adequate recovery it will never be optimally effective. Recovery must be an essential part of all training programs, and must be carefully planned and programmed. Optimal recovery requires a multidimensional approach, that addresses all aspects of the athletic lifestyle, such as sleep, nutrition, overall stress levels, etc. Rugby can produce high levels of fatigue, and given the length of rugby seasons and the number of games played, proactive recovery is an area that can give rugby teams and players a real advantage. An important element of this multidimensional recovery program is to develop a recovery ritual for use after matches.

Fatigue in a Rugby Game

Rugby is a high intensity intermittent sport, involving a great deal of physical contact, played over a period of 80 minutes. Despite its duration, the key actions in rugby are of a high intensity, (scrumming, tackling, lineout jumping and lifting), all require a high degree of force and power production. This

combination of high intensity actions, an extended playing period, and physical contact mean that there is a high level of physical fatigue after a game of rugby. These combinations also mean that fatigue following a rugby game involves all three physical fatigue types, namely:

Physiological fatigue

Fatigue associated with the energy systems and associated metabolic by products.

Neural fatigue

Fatigue associated with repeated high intensity exercises, and involving the neuromuscular elements of force production.

Tissue damage

Damage to muscle tissues from physical contact and eccentric actions.

Given this high level of fatigue, the need for recovery is clear. What is important is that actions are taken which can promote recovery, in other words an athlete needs to be proactive in enhancing recovery. Proactive recovery activities

can significantly assist in the overall recovery process. Additionally, after a rugby match there is a high level of psychological fatigue which is present in most competitive situations. Given this high level of fatigue, it is important to develop an appropriate post game routine designed to promote recovery in all of these fatigue areas.

The Power of Rituals

A key to optimizing recovery is the consistent use of key strategies. A fundamental aspect in the effective integration of recovery into an athlete's schedule is the use of rituals. Much of our behaviour is ritualistic, where we carry out tasks without the need for great thought or effort, indeed a great deal of what we do each day is carried out in this way. If we think of what we do each morning after we wake, it is likely that the vast majority of it is unvarying and occurs without the need for a great deal of thought or effort, in other words we have our morning rituals. It is important to use this characteristic of rituals to make positive changes in our lifestyle, and developing a post game ritual is one

thing that can significantly contribute to recovery and subsequent performance.

This ritual needs to incorporate a number of strategies that can address the key types of fatigue elicited by a rugby game. To be optimally effective, the ritual needs to become a habit, and this takes time. In the early instances it will require a bit of thought and planning, but once this is established, then the ritual will require little effort and will simply be a part of the athlete's lifestyle.

Developing the Recover Ritual

Earlier the aspects of rugby fatigue were outlined, and the multiple types of fatigue associated with the game outlined. An appropriate rugby recovery program will therefore need to address all four fatigue elements, and will need to integrate strategies which address all four elements.

Physiological Strategies

These require the replacement of energy substrates and the removal of metabolic bi-products. This should involve a cool down and nutritional strategy, which promotes physiological recovery and provides for an intake of appropriate nutrients to refuel.

Neural Strategies

This will involve a number of aspects such as the replenishment of key neural transmitters, and can be facilitated by appropriate hydrotherapy and self massage strategies

Tissue Damage Strategies

This involves strategies which minimize the levels of tissue damage and promote

Inset 1. A Post Competition Rugby Recovery Ritual

Within the First 5 minutes—Rehydrate and Refuel

Eat/drink carbohydrates and protein, in a 4:1 ratio, utilizing high Glycemic Index (GI) carbohydrates. A recovery sports drink is ideal.

5 – 20 minutes—Cool Down

Move lightly for five to eight minutes. Stretch for eight to ten minutes.

15 – 20 minutes—Neural Recovery

Use a hydrotherapy tool (e.g. contrast showers or cold bath). Self massage. (Using predominantly shaking techniques to stimulate neural recovery). Continue to hydrate.

Within the First Hour—Refuel and Psychological Recovery

Continue to hydrate. Take in more food (high and medium GI carbohydrates and protein). Carry out a performance review. Start to unwind, using music for example as appropriate.

In the Evening—Psychological Recovery

Relax as appropriate (e.g., read, take in a movie, socialize). Continue to hydrate and refuel as appropriate.

Prior to Bed—Sleep Optimization

Use relaxation skills to switch off. Follow your sleep guidelines.

healing. Appropriate cryotherapy can be utilized effectively here.

Psychological Strategies

This requires that the athlete is able to distance themselves from the stresses and worries of the game. This form of recovery needs to incorporate methods by which the athlete can disengage from the game and engage in relaxation activity.

Inset 1 outlines an appropriate post game ritual that can effectively be used after a rugby match.

Elements of the Recovery Ritual

The Cool Down

This is a simple but effective part of any post game ritual. The cool down should involve a period of light activity such as jogging. This activity has the effect of removing metabolic bi-products, and enhancing energy system replenishment

via maintaining blood flow to the muscles. This light activity should be followed by a period of stretching which helps maintain muscle length and range of motion, and promote muscle relaxation. Rehydration should be occurring throughout this period to replace fluids lost during a game, which can be significant, especially in hot or humid conditions.

Post Game Nutrition

The keys here are to rehydrate and refuel. Ideally hydration should have been carried out throughout the game, and should continue after the final whistle. A window of opportunity exists in the first hour after exercise, where a disproportionate amount of the carbohydrates consumed go to replenish the glycogen stores, stores which can be significantly consumed during a rugby match. The idea is to provide the body immediately with the nutrients it requires for recovery, and so high glycemic index carbohydrates should be consumed as soon as possible after exercise. High glycemic index carbohydrates require little digestion and can enter the blood stream rapidly, providing for a rapid rise in blood sugar which is conducive to refuelling. Ideally this should also contain some protein (in a 4:1 carbohydrate to protein ratio). Appropriate recovery sports drinks are ideal, and can easily be brought to each game by the athlete. This drink can then be consumed straight after the game, before the cool down, and can contribute to both hydration and refuelling. A meal can then be consumed once the remainder of the routine is completed. This again should contain high to medium glycemic index carbohydrates and pro-

Table 1. Refuelling Guidelines (2)

Immediately Post-Workout	High GI carbohydrate and protein drink (4:1 ratio CHO/Protein; using 1.5g/Kg CHO)
Post-Exercise Follow Up	Moderate/High GI carbohydrates and mixed meals with protein.

Table 2. Contrast Shower Guidelines

Contrast shower	Alternate 1 minute of hot (as hot as tolerable) with 30 seconds of cold (as cold as tolerable). Repeat three times
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Table 3. Cold Plunge Guidelines

Cold Plunge	Use a temperature of 5 – 15 degrees C Immerse for 5 – 7 minutes Move body parts during the immersion
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tein. Table one provides guidelines for post game refuelling.

Hydrotherapy

Hydrotherapies are an effective way of promoting neural recovery. Ideally the athlete should have a number of strategies which can be used at both home and away venues. Contrast showers are a suitable option which can be integrated into the post game routine. Table 2 provides guidelines for the use of contrast showers.

Self Massage

Self massage is a strategy easily assimilated into any post game routine, as it can be performed anywhere. Ideally shaking movements should be used as this enhances neural recovery (1).

Cryotherapy

Ice has long been an integral part in the treatment of injuries. Rugby can produce a number of minor areas of tissue damage, many of which may not be immediately evident. Icing and the use of cold baths can assist in the treat-

ment of injuries and minor knocks, etc that are common in rugby. The cold baths work on the principle that blood vessels are constricted, assisting in the removal of blood. Subsequent dilation of blood vessels following the plunge allow for fresh blood to return to the muscles assisting recovery. Table 3 provides guidelines for using cold baths.

Disengagement

Competition can produce high levels of psychological fatigue. It is important that the athlete is able to distance themselves from this as soon as possible after the game. A performance review is an ideal way of doing this. By committing themselves to a short written performance review, the athlete starts the disengagement process. It has been shown that the process of writing helps an athlete clarify and organize their thoughts, and identify actions to be taken at a later date. Once down on paper, many of these thoughts lose their power to annoy and distract, and assist in the athlete's ability to disengage from the game.

Relaxation

In the evening following a game, it is important that the athlete is able to undertake relaxing activities. The choice of relaxation activity will likely be individual to the athlete, and they need to experiment to find which strategies are most effective. This state of relaxation will facilitate psychological recovery and will also help the athlete get to sleep, which is vital for optimal recovery on a physical and psychological basis.

Post game rituals can greatly enhance an athlete's recovery and can provide a valuable tool in the quest for enhanced rugby performance. Using the tips provided in this article will help you recover from the stress and fatigue of rugby matches.

References

1. Gascoigne, H. (1996). *Smart Sport: The Ultimate Reference Manual for Sports People*. Canberra, RWM Publishing.
2. Jeffreys I. (2005). A multidimensional approach to enhancing recovery. *Strength and Conditioning Journal*. 27(5): 78 – 85.

About the Author

Ian Jeffreys is currently Director of Sport Science, Athletics and Athletic Performance at Coleg Powys in Brecon, Wales. He is also the strength and conditioning coach for the Welsh Schools Rugby Union National team at Under 16 level. Ian is on the Board of Directors of the United Kingdom Strength and Conditioning Association (UKSCA), and is an accredited coach and assessor with the organization. He also holds the Coach Practitioner distinction from the NSCA.



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