PREMIUM PERFORMANCE TRAINING INC.

Health & Fitness Newsletter

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PREFACE

This is a bi-monthly publication of Premium Performance Training Inc. aimed at providing general information regarding current health and fitness trends.

Quote to Remember:

"If you are bored with life you do not have enough goals"

- Lou Holtz

INSIDE THIS ISSUE:

Recovery Techniques For Athletes

The pride along with the financials rewards which are now associated with the successful performances in sports have led athletes and coaches to continually search for any advantage that can result in improved performances. One such area that has been impacted by this desire for improved performance is recovery. Recovery aims to restore physiological and psychological processes, so that the athlete can compete or train at an appropriate level. With this fact in mind, the rate and quality of recovery has been shown to be extremely important for the high performance athlete as optimal recovery can provide numerous benefits during repetitive high-level training and competition. Recovery from training and competition is complex and involves numerous factors. It is dependent on the nature of the exercise performed combined with any other outside stressors to which the athlete maybe exposed. As a result, the recovery technique used depends on the type of activity performed, the time until the next training session or event, and the equipment and, or personnel available.

POPULAR RECOVERY TECHNIQUES

- ***Hydrotherapy (Water Immersion)***

Cold Water Immersion

Water immersion can involve cold water immersion (CWI), hot water immersion (HWI) or contrast water therapy (CWT), - where the athlete alternates between hot and cold water immersion. Water immersion has been shown to be beneficial as the human body responds with changes in the heart, peripheral resistance and blood flow, as well as, skin, core and muscle temperature alterations (Wilcock et al, 2006). These changes in blood flow and temperature responses have a positive effect on inflammation, immune function, muscle soreness and perception of fatigue. From the literature available it was determined that hydrotherapy was particularly beneficial to athletes performing high intensity efforts, with cold water immersion and constant water therapy being more beneficial to recovery compared to hot water immersion.

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Kickboxing Workout

Get set to change up your regular routine with the below kickboxing workout. The workout combines martial arts techniques with interval cardio to keep your heart rate up while allowing you to get a full-body, heart pumping, calorie burning workout.

Warm Up with 3 minutes of skipping before beginning the workout

Instructions:: Repeat the instructed combination as many times as possible within the stated time period

KICKBOXING COMBO #1

Combination	Time (Seconds) *
Jab, Jab, Cross, Hook, Rear Leg Knee Strike	**90**
Jab, Cross, Jab, Cross, Front Leg Knee Strike	**90**
Jab, Cross, Dip, Hook, Rear Leg Knee Strike, Lead Leg Sidekick,	**90**

* Complete 60 seconds of skipping after each completed combination set

KICKBOXING COMBO #2

Combination+	Time (Seconds) *
Cross (R), Cross (L), Cross (R), Cross (L), Jump Squat	**60**
Cross (R), Cross (L), Jumping Jack, Cross (R), Cross (L), Power Jack	**60**

+ Standing with your feet shoulder width apart
(R) means right hand/foot, (L) means left hand/foot

KICKBOXING COMBO #3

Combination+	Time (Seconds) *
Cross (R), Cross (L), Isometric Squat & Cross (R) and Cross (L)	**60**
Speed Bag Drill	**60**

+ Standing with your feet shoulder width apart
(R) means right hand/foot, (L) means left hand/foot

Remember to Cool Down & Stretch after your workout

Ask Yourself Answers

1. **True**
2. **False - With Rio hosting the 2016 Olympics it only leaves two continents (Africa and Antarctica) that have never hosted a Summer Olympics**
3. **True - Baseball/softball, karate, skateboarding, sports climbing and surfing will be introduced or reintroduced in 2020**
4. **True**
5. **True - Women were first allowed to compete in the second Olympics in 1900, with just 22 women out of a total of 997 athletes competing in 5 sports**

Research the Facts

Slow-Rep Speed Squats Increase Muscle Size, But Not Power

In an eight week training program conducted by researchers from the National Institute of Fitness in Japan subjects performed squats either slowly (three seconds down, three seconds up) or normally (down under control, up fast). The results showed that performing squats at slow speeds using moderate weights increases muscle size and strength, but had no effect on power. Subsequently despite performing squats slowly under high tension is very popular with some athletes this type of training is not applicable to power athletes since it does not overload the fast-twitch muscles. Overall however, for general training practices, slow-rep training can be utilized if you need a taste of something different but is not suggested as the core portion of your training regiment.

(International Journal of Sports Medicine, 37: 305 - 312, 2016)

Low Metabolic Rate Persists In 'Biggest Losers'

'The Biggest Loser' is a highly successful television show which started in the United States in 2004 and was subsequently adopted by television stations around the world. In the show extremely obese men and women competed for a cash prize to lose the most weight. A long term study of 14 'Biggest Loser' contestants led by Erin Fothergill and Kevin Hall from the National Institute of Health in Bethesda found that the contestants impressively lost an average of 130 pounds, but unfortunately regained an average of 90 pounds after six years. Their resting metabolic rate (the rate of caloric expenditure) decreased by approximately 610 calories per day by the end of their stay on 'Biggest Loser' however, six years later it had decreased further to 704 calories per day. As a result of this the researchers determined that weight regain was almost inevitable because of the large decrease in resting metabolism, and also suggested the theory that the contestants may have even gained more weight if they were not conscious of the fact that they were in the public eye due to the being a former contestant on the show.

(Obesity, published online April 19, 2016)

Compression Clothing For Endurance Runners

Extreme endurance events such as marathons and triathlons push the nervous and cardio vascular systems to the max. As the race progresses athletes lose cardiovascular control as they fatigue, which results in less blood returning to the heart and elevated heart rates. According to a literature review by Benjamin Watson from the Munson Medical Center's Healthy Weight Center in Traverse City, Michigan compression pants might improve endurance performance, but the results of the studies are inconclusive even as some evidence has suggested that compression clothing speeds recovery and decreases muscle soreness after intense training. However, more research is needed before a concrete recommendation can be made as it relates to compression clothing to endurance athletes.

(ACSM's Health & Fitness Journal, 20 (2): 12 - 18, 2016)

Sequential Exercise and Dieting Best For Weight Loss

Most people use low-calorie diets, increased physical activity or a combination of diet and exercise to lose weight. Researchers from Spain and the United States found that a sequential program of 16 weeks of high intensity interval training, followed by 16 weeks of a low-calorie diet was more effective for altering body composition than combining diet and exercise at the same time. The results of the study showed that this sequence resulted in the greatest changes in weight, body mass index, waist circumference and upper body fat. Regular exercise however has significant beneficial effects on metabolic health, which go beyond weight loss, so sequential exercise and diet programs are probably not very practical or beneficial in the long run.

(International Journal Sports Medicine, 37: 274 - 281, 2016)

Recovery Techniques For Athletes

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- ***Massage Therapy***

Massage is widely used as a recovery strategy among athletes as it increases blood flow, and improves the clearing of metabolic waste products, which is one of the main mechanisms proposed to improve recovery. The benefits of massage therapy in recovery is directly related to its effect on delayed onset muscle soreness (DOMS), which is often used as a marker for recovery, although it may not always be well-correlated with performance decrements. A review of this correlation by Nelson (2013) concluded that massage did help reduce the perceived levels of DOMS in the athletes involved in the studies. Several reviews of literature have shown that most evidence does not support massage as a modality to improve recovery of functional performance (Weerapong et al, 2005; Barnett 2006). However, massage is beneficial in improving the psychological aspects of recovery, and is beneficial for injury prevention and management, and therefore, massage can still be incorporated into an athletes' training program for reasons other than recovery.

- ***Active Recovery***

Active recovery generally consists of aerobic exercise which can be performed using different modes (e.g. jogging, cycling, swimming). Active recovery is performed at low intensity and is often thought to be better for recovery than passive recovery due to enhanced blood flow to the exercised area and clearance of lactate and other metabolic waste products due to increased oxygen delivery. Similar to massage therapy, active recovery does not have a significant amount of literature to support it. Many researchers use the removal of lactate as their primary indicator of recovery and of the subsequent effect on DOMS. Therefore, active recovery is beneficial in reducing muscle soreness after exercise. Subsequently, active recovery is one of the most common forms of recovery utilized by the majority of athletes.

- ***Stretching***

Stretching is one of the most used recovery strategies by athletes as it improves the blood flow to the muscles that are being stretched increasing oxygen delivery. Once more there is very little literature examining the effects of stretching as a recovery method. However, there have not been any detrimental effects on performance associated with post exercise stretching, while stretching has been shown to have additional benefits of reducing the effects of DOMS as well as improving the range of motion of the muscles being stretched, which can help in the prevention of injuries.

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ASK YOURSELF ..... True or False ?

Score: _____ out of 5

1. Every national flag of the world has at least one of the Olympic Ring colors (blue, black, green, yellow, red)	**TRUE**	**FALSE**
2. Three continents (Africa, South America, and Antarctica) have never hosted a Summer Olympics	**TRUE**	**FALSE**
3. The Tokyo 2020 Olympics will see the introduction or reintroduction of 5 sports	**TRUE**	**FALSE**
4. Michael Maskell has competed at 5 Olympic games, the most for a Barbadian athlete	**TRUE**	**FALSE**
5. Women were not allowed to compete at the first Olympic games	**TRUE**	**FALSE**

Recovery Techniques For Athletes

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- ***Compression Garments***

Many recovery strategies for elite athletes are based on medical equipment or therapies used in patients. Compression clothing is one of these strategies as it has been traditionally used to treat various lymphatic and circulatory conditions. Compression garments are thought to improve venous return through the application of graduated compression to the limbs from proximal to distal. The external pressure created may reduce the intramuscular space available for swelling and promote stable alignment of muscle fibers, attenuating the inflammatory response and reducing muscle soreness. The small amount of data on the effects of compression garments on recovery suggests that they maybe beneficial to the recovery process; while, for sprint and power athletes it was found that such garments showed a small to moderate positive effect in relation to recovery of maximal strength and power, especially in short distance sprints (10 - 60m) and vertical jump performance, as well as torque measurements but there has been no known enhancement on agility performance.

- ***Recovery Drinks***

A systematic review was performed by Spaccarotella (2011) into the use of recovery drinks after aerobic exercise or competition as a means of assisting in recovery. The reviewers concluded that recovery drinks containing electrolytes do enhance recovery and can be used to maximize glycogen resynthesis and recommended that athletes performing glycogen-depleting exercise consume either; (1) approximately 1.2g carbohydrates per kg of bodyweight in the form of glucose and sucrose immediately post exercise, and hourly thereafter for the next 4 - 6 hours, or (2) approximately 0.8g carbohydrate per kg of bodyweight combined with approximately 0.4g protein per kg of body weight hourly post-exercise for the next 4 - 6 hours.

- ***Sleep***

It is generally accepted that sleep serves to recover from previous wakefulness and, or prepare for the functioning in the subsequent wake period. An individual's recent sleep history therefore has a marked impact on their daytime functioning. Limited studies have been conducted into the effect sleep deprivation may have on athletic performance and recovery, however from the available data it was determined that; (1) sleep deprivation must be greater than 30 hours to have an impact on anaerobic performance (Skein et al., 2011), (2) aerobic performance maybe decreased after only 24 hours of sleep deprivation (Oliver et al, 2009), and (3) sustained or repeated bouts of exercise are affected to a greater degree than one-off maximal efforts. The mechanism which has been suggested that results in the reduced performances listed above is that there is an increased perception of effort when sleep deprivation is present for similar exercises or tasks. The overall conclusion was therefore that restricting sleep to less than six hours per night for four or more consecutive nights can impair cognitive performance and mood, disturb glucose metabolism, appetite regulation and immune function. This type of evidence has led to the recommendation that adults should obtain eight hours of sleep per night. The limited information available has also suggested that increasing the amount of sleep an athlete receives may significantly enhance performance and that athletes who are suffering from some degree of sleep loss may benefit from a brief nap, particularly if the brief nap is taken in between training sessions.

CONCLUSION

Recovery research is a relatively new area for scientists, and as such many of the current recommendations are general guidelines only. However, it is known that optimal recovery from training and competition may provide numerous benefits for athlete performance, and recovery strategies such as hydrotherapy, low intensity active recovery, massage, compression garments and stretching may have merit as recovery enhancing techniques. Importance should also be placed on optimal nutrition and adequate sleep to maximize recovery and reduce fatigue from exercise.

Healthy & Great Recipe

Eating healthier does not have to mean eating boring. In our 'Healthy & Great' recipe section we will introduce you to some incredible recipes which are lower in sugar, fat and calories compared to their 'traditional' counterparts but are still full of flavour.

Apple Crumble Pie

MAKES 8 SERVINGS

- 6 tablespoons rolled oats
- ⅓ cup plus 6 tablespoons Spleda granulated sweetener, divided
- ¼ cup graham cracker crumbs
- 2 tablespoons packed dark brown sugar
- ¼ cup plus 1 tablespoon all-purpose flour, divided
- 1 teaspoons plus ½ teaspoon cinnamon, divided
- 3 tablespoons cold butter cut into ½-inch cubes
- 6 cups peeled apple slices (about 2½ pounds)
- 1 tablespoon lemon juice
- 1 prepared single piecrust (refrigerated or frozen)

Method

1. Preheat the oven to 425°F.

2. Topping: In a medium bowl, mix the rolled oats, ⅓ cup of the sweetener, graham cracker crumbs, brown sugar, ¼ cup of the flour, and 1 teaspoon on the cinnamon. Cut in the butter using a pastry blender or by hand, until the mixture resembles coarse meal.

3. In a large bowl, toss the apples with the remaining 6 tablespoons sweetener, 1 tablespoon flour, ½ teaspoon cinnamon, and the lemon juice. Pour the apple mixture into the piecrust and bake for 15 minutes.

4. Remove the pie from the oven and sprinkle the topping on the top. Lower the temperature to 375°F and bake for an additional 20 to 25 minutes, or until the crumble is crisp and golden brown and the apples are tender.

NUTRITIONAL INFORMATION PER SERVING

Calories: 230 / Carbohydrates: 34g (Sugars: 17g) / Total Fat: 10g (Saturated Fat: 3g) / Protein: 2g / Fiber 3g / Cholesterol: 15mg / Sodium: 125mg

Recipe obtained from "Eat What You Love" - By Marlene Koch

Contains more than 300 incredible recipes which are low in sugar, fat and calories and are great for weight loss & diabetic diets

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Let Us Know What You Thought Of This Issue

Read something that you disagreed with, that you did not understand or that was really helpful? Send your feedback to **jamiljones@premiumperformancetraining.com**