PREMIUM PERFORMANCE TRAINING INC.

Health & Fitness Newsletter

VOLUME 6, ISSUE 5 SEPTEMBER/OCTOBER 2015

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:

"Never give up on a dream because of the time it takes to accomplish it, the time will pass anyway"

- Earl Nightingale

INSIDE THIS ISSUE:

Heart Health - Understanding the Beat of your Heart

Resting heart rate, target heart rate, maximum heart rate, heart rate reserve and, heart rate recovery are all common terms used in the health and fitness industry. But, do you know what they all mean? How do you calculate these measurements? And most importantly, what do these measurements say about your overall health and wellbeing? Below are some facts that you ought to know about these important heart related measurements.

Heart Rate (HR)

Your heart rate is the speed at which your heart beats, and is measured by the number of contractions of the heart per unit of time typically, in beats per minute (bpm). Heart rate is not a stable value and varies in response to the body's need to maintain an equilibrium between requirement and delivery of oxygen and nutrients. Activities that can provoke change include physical exercise, sleep, anxiety, stress, illness, eating and drugs.

Resting Heart Rate (HR_{rest})

Your resting heart rate is defined as the heart rate when you are awake, in a neutrally temperate environment, and have not undergone any recent exertion or stimulation (e.g. stress or surprise). The normal resting heart rate for adults, according to the American Heart Association, is between 60 to 100 bpm. Tachycardia and Bradycardia are two abnormalities of heart rate with Tachycardia occurring in persons with a resting heart rate of more than 100 bpm, while Bradycardia is defined as a heart rate less than 60 bpm. Your resting heart rate can also be used as a gauge to determine your fitness level progress. It should be noted that many well-trained/endurance athletes with higher cardiovascular fitness levels tend to have lower resting heart rates than the perceived norm, while not being Bradycardic. For well-trained/endurance athletes the average resting heart rate is between 40 — 60 bpm.

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Rower Workout - High Intensity Intervals

Overview:

Most cardio machines provide excellent conditioning for your lower body, however unlike most other cardio machines a rowing machine can help condition your upper body as well, as based on your experience level, strength, effort and the resistance applied the rowing machine can allow you to sufficiently load your back, shoulders and arms for hypertrophy gains. As a result of this fact, not only is an interval workout on a rowing machine an excellent cardio fat blasting workout, but is also a good option to kick off an upper-body weight training session.

The Workout:

Warm Up *(3 minutes) - Light to Medium Resistance*

- Row for 3 minutes at an easy pace, with the resistance at a light to medium level.

Workout *(15 minutes) - Medium to Hard Resistance*

- 10 segments - 30 seconds maximal effort (work phase) alternating with 60 seconds low-to-moderate pace rowing (recovery phase). The resistance level remains at medium to hard throughout this phase

Cool Down *(3 minutes) - Light to Medium Resistance*

- Row for 3 minutes at an easy pace, with the resistance at a light to medium level.

Variation Options:

Easier Options

1. Keep the resistance at a light to medium level for the workout section
2. Increase the recovery phase to 90 seconds
3. Change the recovery phase to a rest phase (do not row)

Harder Options

1. Increase the resistance to its maximum level for the workout section
2. Increase the work phase to 60 seconds
3. Decrease the recovery phase to 30 seconds

Water Rower

Air Rower

Magnetic Rower

Hydraulic Rower

Ask Yourself Answers

1. **True**
2. **False - Your body's biggest muscle is the gluteus maximus in your buttocks**
3. **True - Water makes up 83% of your blood**
4. **True - Koalas sleep approximately 22 hours a day & Giraffes sleep approximately 1.9 hours a day in 5 - 10 minute segments**
5. **False - DOMS doesn't appear until around 24-72 hours after exercise and is caused by microfractures in the muscle cells**

Research the Facts

Compression Clothing Speeds Recovery

Intense training causes small muscle injuries and inflammation that trigger fitness adaptations but also prolong recovery. Following muscle injury, athletic trainers and physical therapists recommend the RICE principle (rest, ice, compression and elevation). Japanese researchers showed that wearing compression garments following weight training (three to five sets at 70% of max for nine exercises) accelerated recovery, as measured by a bench press and the extension strength test. Compression clothing promotes recovery from weight training, however the results showed that the effects occurred faster in upper body than lower body muscles.

(Medicine & Science in Sports and Exercise, 46:2265 - 2270, 2014)

Cherry Juice Reduces Upper Respiratory Problems After Marathon Runs

Upper respiratory infections are common following competitive marathon running. Extreme levels of exercise cause general body inflammation and suppress the immune system. British researchers found that marathon runners who took cherry juice after a race showed reduced inflammation as measured by levels of C-reactive protein, immunoglobulin A and B, and a reduced incidence of upper respiratory infections compared to a placebo. The chemicals in cherry juice, such as flavonoids and anthocyanins, prevent muscle oxidative damage and inflammation associated with exercise recovery. Cherry juice can therefore be useful for helping to reduce sports injuries, preventing upper respiratory infections and promoting recovery.

(Journal International Society Sports Nutrition, 12:22, 2015)

Low-Carb Diets Better Than Low Fat Diets for Weight & Fat Loss

A 12-month study led by Lydia Bazzano from Tulane University in New Orleans found that a low-carbohydrate diet promoted greater weight loss than a low-fat diet. The study's subjects were overweight middle-aged adults. The study split the subjects into 2 groups; a low-carb group and a low-fat group, with neither group having a calorie intake restriction. The low-carb group consumed less than 40 grams of carbohydrates per day, and the low-fat group consumed less than 30 percent of their calories from fat. The results showed that not only did participants in the low-carb group have a greater weight loss (12 pounds verses 4 pounds), and waist circumference (2.6 inches verses 2.2 inches), but this group also showed greater decreases in total cholesterol, LDL cholesterol, triglycerides insulin and overall cardiovascular risk.

(Annals Internal Medicine, 161: 309 - 318, 2014)

Coping With Overtraining

Coaches and athletes, in their quest for better performances, follow intense training programs in the hope of gaining an edge over the competition. However, a fine line exists between programs that improve condition and those which lead to overtraining. Overtraining is an imbalance between training and recovery, the consequences of which can be severe, and include decreased performance, injury, depressed immunity and psychological depression. Chronically over trained athletes who get injured or crash may never reach their former levels of performance. Unfortunately, there is no single marker of overtraining. Instead, it is linked to a variety of symptoms that include decreased performance, overuse injuries, elevated resting heart rate, markers of muscle damage, elevated or depressed cortisol, frequent illnesses, psychological depression and abnormal behavior. It is important to find the right balance between the two mediums as hard work is important, and required, for improved performance but overtraining leads to breakdown and failure.

(ACSM's Health & Fitness Journal, 19 (2): 4 - 5, 2015)

Heart Health - Understanding the Beat of your Heart

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Maximum Heart Rate (HR_{max})

Your maximum heart rate is the highest heart rate you can achieve without severe damage through exercise stress. Your maximum heart rate varies by individual and generally decreases with age. As a result of these facts the most accurate way of measuring any single person's maximum heart rate is via a cardiac stress test. In this test the person is subjected to controlled physiologic stress (generally by treadmill) while being monitored by an electrocardiogram (ECG). For general everyday purposes a formula incorporating the participants age is often employed to estimate maximum heart rate. The most common formula used to determine maximum heart rate is: $HR_{max} = 220$ - age. However, while this is the most common and easiest to remember and calculate, this particular formula is not considered by most fitness professionals to be a good predictor of maximum heart rate. A 2002 study of 43 different formulas for calculating maximum heart rate published in the Journal of Exercise Psychology concluded that the least objectionable formula was: $HR_{max} = 205.8 - (0.685 \times age)$. However, many other studies have also suggested various formulas to calculate maximum heart rates, varying not only with age but also sex.

Heart Rate Reserve ($HR_{reserve}$)

This is the difference between your measured or predicted maximum heart rate and resting heart rate ($HR_{reserve} = HR_{max} - HR_{rest}$). A person's heart rate reserve will therefore vary based on a person's cardiovascular fitness as when a person increases their cardiovascular fitness their resting heart rate will drop, and thus their heart rate reserve will increase.

Heart Rate Recovery ($HR_{recovery}$)

This is the reduction in heart rate at peak exercise after a cool-down period of a fixed duration. A greater reduction in heart rate after exercise during the designated period is associated with a higher level of cardiovascular fitness. A normal heart rate recovery for a period of one minute after stopping peak exercise is defined between 15 — 25 bpm. An abnormal heart rate recovery however occurs when this drop is less than, or equal to 12 bpm. Clinical studies have found that persons with abnormal heart rate recovery levels are associated with increased risk of heart disease and ultimately death.

Target Heart Rate (THR)

Your Target heart rate is a desired range for your heart rate during aerobic exercise which enables one's heart and lungs to receive benefit from a workout. This rate incorporates an element of intensity, expressed as a percentage. The general target heart rate zone for such aerobic exercise is between 55% — 85% intensity depending on the participant's fitness level. The most common method of determining your target heart rate…

ASK YOURSELF ..... True or False ?

Score: _____ ***out of 5***

1. Every 28 days your skin replaces itself	**TRUE**	**FALSE**
2. Your body's biggest muscle is the hamstring	**TRUE**	**FALSE**
3. Water makes up more than 80% of your blood	**TRUE**	**FALSE**
4. The mammals which sleep the most and least each day are Koalas and Giraffes respectively	**TRUE**	**FALSE**
5. Delayed onset muscle soreness (DOMS) is caused by the build up of lactic acid in your muscles	**TRUE**	**FALSE**

Answers can be found on the bottom of page 2

Heart Health - Understanding the Beat of your Heart

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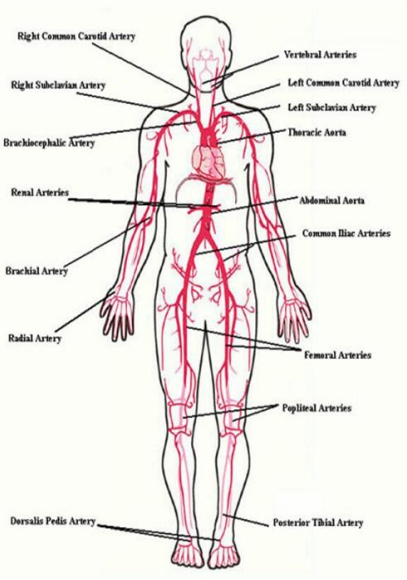
…..range is the Karvonen method, which also factors in your resting heart rate in its calculation (THR = ((HR_{max} - HR_{rest}) x % intensity) + HR_{rest}). Another common method of THR calculation does not take into account your resting heart rate and only considers your maximum heart rate in its calculation (THR = HR_{max} x % intensity).

Measuring Your Heart Rate

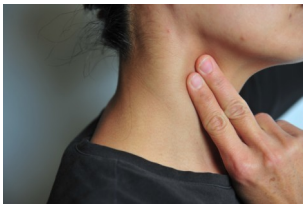
Heart rate is measured by finding the pulse of your heart. This pulse can be found at any point on the body where the artery's pulsation is transmitted to the surface by pressing it with the index and middle fingers. Your thumb should never be used for measuring your heart rate, as its strong pulse may interfere with the correct perception of the target pulse. The radial artery (wrist) and carotid artery (neck) are the easiest and most common ways to manually check your heart rate.



Possible Points For Measuring Your Heart Rate

A more precise method of determining heart rate is through electronic measurements in a clinical setting with the use of an electrocardiogram (ECG), which generates a pattern based on the electrical activity of your heart. In everyday life however ECGs are impractical, and heart rate monitors are common place. Heart rate monitors allow measurements to be taken continuously, even during exercise. Previously most heart rate monitors used during exercise consisted of a chest strap with electrodes which transmitted the signal to a wrist receiver for display, however more wrist based monitors are hitting the market to cater to everyday use without the inconvenience of a chest strap. While the shift to wrist based monitors has made everyday heart rate tracking more convenient it should be noted that for higher intensity levels of exercise, where the change in heart rate can be sudden and drastic, the chest strap monitors are superior and more accurate than their wrist strap counterparts.

Radial Artery Measurement



Carotid Artery Measurement

Chest Strap Measurement

Wrist Strap Measurement

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 flavor.

Buffalo Chicken Strips (with Blue Cheese Dip)

MAKES 4 SERVINGS

Buffalo Chicken Strips

- ¼ teaspoon garlic powder
- ¼ teaspoon onion powder
- 1½ tablespoons hot sauce
- 2 teaspoons vegetable oil
- ½ pound boneless chicken breast cut into ¼-inch strips
- 2 teaspoons butter
- Black pepper to taste
- 3 celery stalks, cut into sticks
- 2 carrots, cut into sticks (or ¾ cup baby carrots)

Blue Cheese Dip

- ¼ cup non-fat plain yogurt
- ¼ cup light sour cream
- 2 tablespoons light mayonnaise
- 3 tablespoons crumbled blue cheese
- 1 teaspoon white vinegar

Method

1. To make the dip, in a small bowl, whisk together the yogurt, sour cream, mayonnaise, blue cheese, and vinegar. Cover and refrigerate.

2. For the strips, in another small bowl, mix the garlic and onion powders with the hot sauce and set aside.

3. Heat the oil in a large non-stick skillet over medium-high heat. Add the chicken and cook for 3 - 4 minutes, turning frequently, until browned and almost cooked through. Add the hot sauce mixture and butter to the skillet. Swirl the chicken in the sauce and cook for 1 - 2 additional minutes, or until the sauce completely coats the chicken. Season with black pepper.

4. Place the bowl of blue cheese dip in the center of a platter and surround it with chicken, celery and carrot sticks. Provide toothpicks or small forks to dip the chicken into the dip.

NUTRITIONAL INFORMATION PER SERVING (¼ recipe)

Calories: 180 / Carbohydrates: 7g (Sugars: 5g) / Total Fat: 10g (Saturated Fat: 4g) / Protein: 15g / Fiber 2g / Cholesterol: 45mg / Sodium: 230mg

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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ACKNOWLEDGEMENTS

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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**