



J & S HEALTH, FITNESS AND SPORTS ACADEMY

Health & Fitness Newsletter

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PREFACE

This newsletter is a bi-monthly publication of J & S Health, Fitness and Sports Academy—a gym located in St. James, Barbados. The main purpose of this newsletter is to keep members of the gym informed about current health and fitness trends.

INSIDE THIS ISSUE:

The Importance of Post-Workout Nutrition	1 & 2
Recipe— Sweet Potato Crunchy Surprise	2
Insulin Resistance	3 & 4
Questions & Answers	4
Chest & Back Four Rep Workout	5 & 6
News, Notices and Events	7
Contact Us	7

The Importance of Post-Workout Nutrition



You have just finished your daily workout. You pushed yourself to the limit today and you are so proud of your achievement. But, now you wonder,...“Would eating a meal

immediately after my workout counteract the benefits just gained?”

Many people may be surprised to learn that consuming a healthy meal immediately after a workout can actually enhance the benefits of your workout.

During exercise the body utilizes glucose (usable energy) and glycogen (stored energy) to provide energy to complete tasks. The significant use of such glucose and glycogen creates what can be referred to as an “energy deficit” which makes your body biologically primed for nutrient uptake. Thus, immediately after exercising, there is a “window of opportunity” to maximise your nutrient intake from food as your body attempts to replace the lost glucose and glycogen stores, and to repair any damaged muscle fibres as quickly and effectively as possible. Therefore, your post-workout meals aim to ‘Refuel, Rebuild and Rehydrate’ your body. Thus, post-workout meals should: (1) Be Rich in carbohydrates and proteins, (2) Be Fat free, and (3) Provide enough water to rehydrate your body and to help effectively store any nutrients consumed.

(1) High In Carbohydrates and Proteins

Carbohydrates

Carbohydrates are the body’s number one choice for quick energy supply and, as such, it is the most required nutrient post exercise. It is carbohydrates which are converted within your body into glucose and glycogen

and the replenishment of these stores is necessary for the body to effectively return to its normal functioning state. (Without adequate glucose and glycogen stores you would experience extended periods of fatigue.) The amount of carbohydrates required is generally reflective of the training volume and intensity of your workout. Harder training sessions utilise more energy stores therefore more carbohydrates are needed to replenish our energy. However, research has shown that a carbohydrate intake ranging from 0.8 - 1.2 grams per kilogram of bodyweight is a good average intake for post-workout nutrition. Most of the carbohydrates consumed for post-workout nutrition should mainly be from moderate to high glycemic index foods (e.g. fruit, fruit juices, granola/sports bars) as the nutrients present in these types of foods are more readily available to your body compared to low glycemic index foods (e.g. oatmeal, legumes, all bran cereals)

Proteins

During exercise muscle protein is broken down and muscle fibres are damaged. Protein is therefore required to rebuild the structural aspects of these damaged muscles. Adequate protein in post-workout nutrition allows muscular protein breakdown to decrease and protein synthesis to occur, thereby resulting in your body repairing your damaged muscle fibres in a manner that results in muscles becoming stronger and better adapted to withstand a similar stressor in the future. Researcher suggests that a range of 0.2 - 0.4 grams of protein per kilogram of bodyweight is suitable for post-workout nutrition.

(2) Fat Free

Post-workout nutrition is aimed at getting nutrients to your muscles and at replenishing your depleted energy stores as quickly as possible. Eating fats decreases the transit of food through your stomach, thus slowing down the digestion and absorption of the vital carbohydrates and proteins required by your body to recover from your workout. Therefore, one should avoid incorporating fats into post-workout meals.

Continues on page 2

Micheline submitted one of her favourite recipes: "Sweet Potato Crunchy Surprise". Our task was to make a healthier variation of the recipe while, maintaining the tasty flavour she loves. By making two simple alterations we were able to cut the calories count of this recipe by more than half.

First, we replaced the traditional butter used with light margarine. Butter has a calorie count of 208 in 2 tbsp with 206 Fat Calories. The Light Margarine contains 35 calories in 2 tbsp (35 Fat Calories).

Secondly, we replaced the traditional peanut butter with organic peanut butter. Traditional peanut butter contains 190 calories in 2 tbsp (140 Fat Calories). The organic peanut butter contains 71 calories (54 Fat Calories) in 2 tbsp.

Try making healthier substitutes to your favourite recipes today!



Sweet Potato Crunchy Surprise

Ingredients

- ◆ 5 Large Sweet Potatoes
- ◆ 20 oz of Organic Crunchy Peanut Butter
- ◆ 1 or 2 Cloves of Garlic, chopped finely
- ◆ 1 Medium size onion, chopped finely
- ◆ 5tbsp of Light Margarine
- ◆ Dash of White Pepper
- ◆ 1/2 cup of unsweetened pineapple juice
- ◆ Non-stick Spray

Method

Peel sweet potatoes and cut them into half inch slices. Boil the sweet potatoes until soft.

Drain sweet potatoes and mash with margarine, onion, garlic and pineapple juice until the mixture is smooth.

Spray the pie dish with non-stick spray.

Spread a layer of the sweet potato mixture into the pie dish.

Add a layer of the Organic Crunchy Peanut Butter to cover the sweet potato mixture.

Add another layer of the sweet potato mixture.

You can add pineapple and cherries on the top to garnish.

Heat oven to 400 and bake for 10-15 minutes, until light golden brown.

Submitted by Micheline Walton-Waterman

The Importance of Post-Workout Nutrition cont'd

Continues from Page 1

(3) Provide Enough Water to Re-hydrate Your Body and to Help Effectively Store Any Nutrients Consumed

During exercise our body loses the majority of its water through the process of sweating. However, water is also used internally by working tissues to keep your body temperature down. After exercise any water loss should be replenished to allow not only for the general re-hydration of your body but also to assist with post exercise energy restoration and muscle recovery. For general re-hydration approximately 20 - 24 fl oz of water should be consumed for every pound lost during exercise with an additional 3 - 4 millilitres of water also being required per gram of carbohydrates ingested to allow for the effective storage of glycogen.

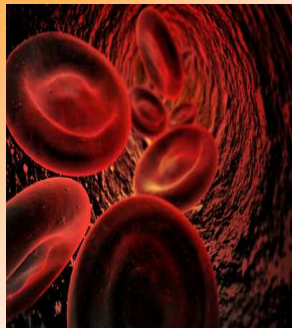
NOTE:

Liquid meals (supplements and water) take better advantage of the 'window of opportunity', compared to whole foods, and are therefore a more effective choice for your post-workout nutrition meal. This is due to the fact that the nutrients provided in liquid meals are fully absorbed within the muscles more quickly (30 - 60 minutes) compared to whole foods (2 - 3 hours).

Would eating a meal after my workout just counteract the benefits just gained?



Insulin Resistance



In recent years insulin resistance has been gaining public attention due to its significant correlation to the development of Type II diabetes and its direct association with various cardiovascular diseases (e.g. arteriosclerosis) and other medical conditions (e.g. fatty liver and polycystic ovary syndrome). Yet, many people are still unaware of the serious health concerns associated to this easily treatable condition.

What Is Insulin Resistance?

Put simply, insulin resistance is a condition which occurs when the body is unable to utilise insulin effectively. In a perfectly functioning system, the pancreas secretes the hormone insulin to assist the cells of the body in absorbing glucose from the bloodstream. (Glucose is our body's primary source of energy). However, in the presence of insulin resistance, the body becomes "resistant" to insulin causing a constant demand on the pancreas to produce higher levels of the hormone to remove glucose from the bloodstream. Eventually, the pancreas will fail to keep up with the body's need for insulin, resulting in excess glucose building up in the blood stream. Thus, the body is unable to absorb the glucose necessary to provide energy to complete daily tasks and in more serious cases the excess glucose in the blood stream sets the stage for other health complication such as Type II diabetes.

Who Is At Risk Of Becoming Insulin Resistant?

Most persons are resistant to insulin to a small degree; however, there are specific factors that can increase a person's risks of developing such a high resistance to insulin that he or she is diagnosed as being insulin resistant. Examples of such factors include:

- (1) If you are over 40 years of age;
- (2) If you are overweight with a body mass index (BMI) of more than 25;
- (3) If you are a man with a waist more than 40 inches or a woman with a waist more than 35 inches;
- (4) If you are Latino, African American, Native American or Asian American;
- (5) If you have high blood pressure, high blood triglycerides, low HDL cholesterol or arteriosclerosis; and,
- (6) If you have close family members with Type II diabetes, high blood pressure or arteriosclerosis,

How Is Insulin Resistance Diagnosed?

In general everyday practice insulin resistance is not diagnosed using expensive and sophisticated tests and machinery. However, a detailed patient history and the use of tests which indicate the presence of

pre-diabetes or metabolic syndrome (e.g. fasting glucose test, glucose tolerance test) are used to diagnose insulin resistance.

How Is Insulin Resistance Managed?

Insulin resistance can be managed, and the development of Type II diabetes avoided, by reducing the body's need for insulin and, or, by increasing the sensitivity of the body's cells to the action of insulin. These goals can be achieved by Lifestyle Modification and, or Medication.

Lifestyle Modification

Lifestyle modification - specifically diet and exercise - have been repeatedly proven to have the best positive effect on insulin absorption within the body. In fact, the American National Institute of Diabetes and Digestive and Kidney Diseases conducted a study in 2001 which definitively showed the positive effects of diet and exercise on diabetes prevention. Results from the study showed that lifestyle modifications resulting in as little as 5% to 7% loss of body weight in its participants, delayed or prevented the development of diabetes by 58%¹. Many participants in the study had pre-diabetes (i.e. their blood glucose levels were higher than normal but not high enough for a diagnosis of diabetes) and were able to return their blood glucose levels to normal ranges. Lifestyle modification worked particularly well for participants aged 60 and older, as their risk was reduced by 71%¹.

Changes in the diet should be aimed at increasing the intake of more low glycemic carbohydrates (non-starchy vegetables and foods high in fibre) and reduce the intake of high glycemic carbohydrates (unrefined sugars). This replacement of high glycemic carbohydrates with low glycemic carbohydrates would aid in the body's ability to balance insulin levels since low glycemic carbohydrates are absorbed at a slower rate. Similarly, saturated fat intake should be limited. Overall a **Mediterranean diet** (one which emphasizes generous amounts olive oil; daily use of fruits, vegetables, whole-grain products, cheese and yogurt; seldom use per week of eggs, poultry and sweets; and, very little red meat [a few times per month]) is recommended as being the most beneficial for persons who are insulin resistant.



Continues on Page 4

Insulin Resistance Cont'd

Continues from Page 3



An increase in physical activity would also improve the body's sensitivity to insulin since it would increase the rate at which glucose is absorbed into the muscles without the need for added insulin secretions.

Medication

Currently there is no drugs approved by the US Food and Drug Administration for the specific treatment of insulin resistance. However, there is one drug (Metformin) which is recommended by The American Diabetes Association in the treatment of diabetes, and as such is the most commonly used medication for insulin management. Metformin helps to reduce blood insulin levels by increasing the sensitivity of muscle and fat cells to insulin².

¹ National Diabetes Information Clearinghouse. (2008). *Diabetes Prevention Program*. Retrieved February 6, 2010 from <http://diabetes.niddk.nih.gov/dm/pubs/preventionprogram/>

² It should be noted that this article in no way promotes the use of Metformin in treating insulin resistance. As with all medication, individuals should consult a physician before taking any medication



Questions & Answers

I am a senior who recently began lifting weights. My blood pressure is normally under control; however, after my first weight training session I realised that my blood pressure was significantly higher than normal. Is this blood pressure rise normal or should I discontinue my weight training?

Weight training, and exercise in general, can cause a temporary, but sometimes drastic increase in blood pressure due to the increased demand on your heart to continuously pump more blood throughout your body. Within minutes after exercise however your blood pressure should begin to return to normal. In fact, despite this temporary spike in blood pressure, progressive resistance exercise has been proven to lower blood pressure (a decrease of approximately 2% and 4% in systolic and diastolic blood pressure, respectively). Thus, there seems to be no reason to discontinue your weight training. As your body becomes more accustomed to the weight training routine the drastic post workout spike in blood pressure would decrease and ultimately your overall blood pressure should decrease.

Important - Individuals with uncontrolled high blood pressure (greater than 180/110) should not engage in a weight-training program. All individuals should consult a physician before beginning an exercise program.



PAGE 5 **CHEST & BACK FOUR REP WORKOUT**

This program is aimed at building muscle mass. It involves 4 exercises for each body part trained and is designed to target the muscles from a variety of angles and stimulus. The rep range varies from very low (4), with heavier weight, to body weight exercises done to failure, thereby providing a complete workout for the trained muscles as it targets them in all stimulus ranges (strength, growth, endurance). Rest approximately 1.5 to 3 minutes between sets and exercises. With the exercises which use heavier weight using rest periods closer to 3 minutes and decrease the rest periods per exercise by 30 seconds as the repetitions per set increase by 4.

Exercise	Sets*	Repetitions Per Set
Barbell Bench-press	2 - 4	4
Incline Dumbbell Bench-press	2 - 4	8
Cable Crossover	2 - 4	12
Push Ups / Modified Push Ups	1 - 2	to failure
Lat Pull down	2 - 4	4
T-Bar Row	2 - 4	8
Straight-Arm Pull down	2 - 4	12
Back Extension	1 - 2	to failure

*Beginners should start with 1 or 2 sets per exercise, gradually increasing the number of sets per exercise until the maximum number of designated sets can be completed.

Exercise Description



BARBELL BENCH-PRESS DEMONSTRATION

Barbell Bench-press - Grip the barbell with an overhand grip, slightly wider than shoulder width apart. With your hands fully extended hold the barbell directly above your chest. Breathe in and slowly lower the bar towards the middle your chest until the bar is slightly above, or just touches, your chest. At this point, breathe out and explosively press the bar upwards, returning it towards the starting position.

TIP - do not lock your elbows at the end of the motion

Incline Dumbbell Bench-press - With your arms fully extended, and your elbows facing outwards to the sides, hold the dumbbells just to the outside of your shoulders with your palms facing forward. Breathe in and slowly lower the dumbbells towards your upper chest. When they reach slightly above, or just touch, your upper chest breathe out and explosively press the dumbbells upwards returning them to the starting position..

TIP - Have the incline bench set to an angle of 30 - 45 degrees to maximize the targeting of your upper pectoral muscles



CABLE CROSSOVER DEMONSTRATION

Cable Crossover - Set the pulleys on the cable crossover to the highest position, with the D-grip handles attached. Stand in the middle of the cable crossover apparatus and place one foot in front of the other with your knees slightly bent. Grasp the D-grip handles with your palms facing downwards, keeping your elbows slightly bent while leaning forward a little at your waist. Breathe out and simultaneously make a downwards and inwards motion with the handles, bring them together at a point in front of your midsection. Momentarily hold the contraction, squeezing your pectoral muscles before breathing in and allowing the handles to return to the starting position, stopping just before the weight stacks touch.

TIP - *Keep your elbows as still as possible throughout the entire motion to help isolate the use of your pectoral muscles*

Push Ups - Lay facedown on the floor. With your hands slightly wider than shoulder width apart, place your palms (fingers pointing forward) flat on the floor. Extend your arms fully and adjust your body so that only your palms and toes are touching the floor. Breathe in and bend your elbows out to your sides as you lower your chest towards the floor. Pause just before your chest touches the floor and push your palms into the floor to extend your arms and return to the starting position

TIP - *Aim to keep a constant rhythm for each push up performed*

* *In modified push ups the knees of the individual are also placed on the floor, thereby reducing the amount of upper body strength required to perform the repetitions*

Lat Pull down - Take an overhand grip of the lat bar with your hands slightly wider than shoulder width apart. From a seated position with your chest up, back straight and arms full extended overhead breathe out and pull the bar downwards in a smooth motion towards your upper chest. Pause for a moment, as the bar reaches your upper chest, then breathe in as you slowly extend your arms, until they are straight.

TIP - *Try to keep your body as steady as possible during the motion to emphasise the effectiveness of muscles being used during the motion*

T-bar Row - With your feet shoulder-width apart and your knees slightly bent take a wide overhand grip on the handles. Keeping your back arched and steady throughout the movement, breathe out and pull the bar all the way up to your chest, pausing at the top of the motion before breathing in and lowering the weight until your arms are fully extended.

TIP - *Altering the positioning of your hands (wide, normal or close) on the bar would vary the back muscles which are emphasised during the movement*

Straight-Arm Pull down - Set the pulley on the cable crossover to its highest position, with the short, straight bar attached. Stand facing one side of the cable crossover apparatus, with your feet shoulder-width apart and knees slightly bent. Grasp the short straight bar with an overhand grip having your arms shoulder-width apart. With your arms extended straight out in front of you breathe out and pull downwards, bringing the bar to your upper thighs. Pause momentarily before breathing in and slowly returning the bar towards the starting position, ending the motion when your arms are approximately parallel to the floor.

TIP - *Tighten your abdominal muscles to maintain your core stability as you carry out the motion to keep your body as steady as possible*

Back Extension - With the back of your feet firmly against the footpads and your hips resting on the upper pads cross your hands over your chest and adjust the angle of your upper back so that it is in a straight alignment with your lower body. Breathe in and bend at your waist, lowering your torso towards the floor. Pause at the middle of the motion and breathe out as you use a smooth motion to rise back up to the starting position.

TIP - *Return only to the point where your back and legs are in a straight alignment so as not to hyperextend your back*

TIPS CORNER

Weight loss tip: *Build Lean Muscle Mass*

Muscle tissue is the most metabolic active tissue in your body, with studies estimating that for each pound of muscle you add, you burn an additional 35 to 50 calories per day. So make sure that strength training is an integral part of your weight loss workout program.

TIPS CORNER

Muscle Building tip: *Stay Symmetrical*

Even though a particular body part may not be the main focus of your strength program do not totally neglect it. The total exclusion of entire body parts from your strength program can lead to body proportion imbalances (e.g. big upper body and skinny legs) and, more serious, muscular imbalances (e.g. strong, muscular, flexible quadriceps muscles and weak, tight hamstring muscles) which can lead to regular and possibly chronic injury problems.

NEWS, NOTICES AND EVENTS

Bank Holiday Opening Hours

- ◆ Easter Friday (2nd April) - Gym CLOSED
- ◆ Easter Monday (5th April) - 7 a.m. - 12 p.m.
- ◆ Heroes Day (28th April) - 7 a.m. - 12 p.m.

Website

J & S Health, Fitness and Sports Academy website is expected to be operational from Monday 5th April 2010. The address is www.jandsacademy.com. **CHECK IT OUT.**

Wall Of Fame

The introduction of the Wall of Fame has been postponed to May 1, 2010. The *Wall of Fame* will display the best 25 results (Male & Female) for standard tests of Strength and Cardio Endurance. **Why not see if you can make the grade?**

Test Standards

Strength Endurance (most repetitions completed in 60 seconds):

Push-ups (Male)

Modified push-ups (Female)

Cardio Endurance (fastest time completed):

Concept 2 Rower: 500m

Treadmill: 1 mile

**** More information can be obtained from the reception area.****

CONTACT US



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WANTED...

Models for the next publication of the Health & Fitness Newsletter

Contact Jamil Jones at 231-6792 (w), 233-6433 (c)

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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@jandsacademy.com